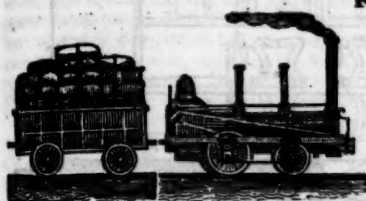
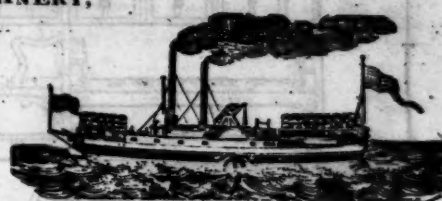


AMERICAN RAILROAD JOURNAL, AND GENERAL ADVERTISER

FOR RAILROADS, CANALS, STEAMBOATS, MACHINERY,
AND MINES.



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THE AMERICAN RAILROAD JOURNAL is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

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W. R. CASEY, CIVIL ENGINEER, NO. 23 Chambers street, New York, will make surveys estimates of cost and reports for railways, canals, roads, docks, wharves, dams and bridges of every description, with plans and specifications. He will also act as agent for the sale or purchase of machinery, and of patent rights for improvements relating to public works.

KITE'S PATENT SAFETY BEAM.

MESSRS. EDITORS.—As your Journal is devoted to the benefit of the public in general I feel desirous to communicate to you for publication the following circumstance of no inconsiderable importance, which occurred some few days since on the Philadelphia, Wilmington and Baltimore railroad.

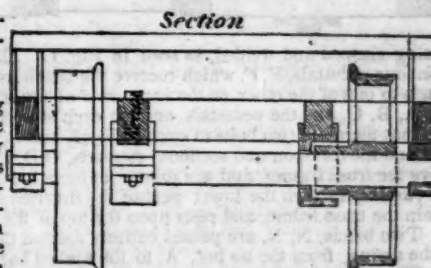
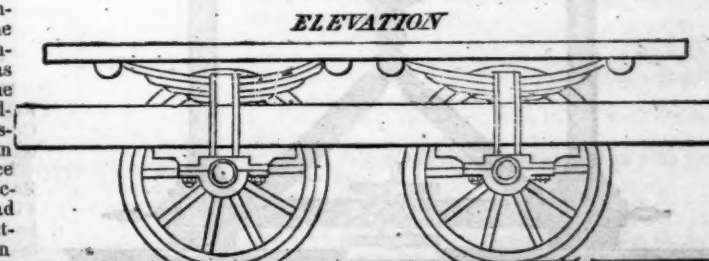
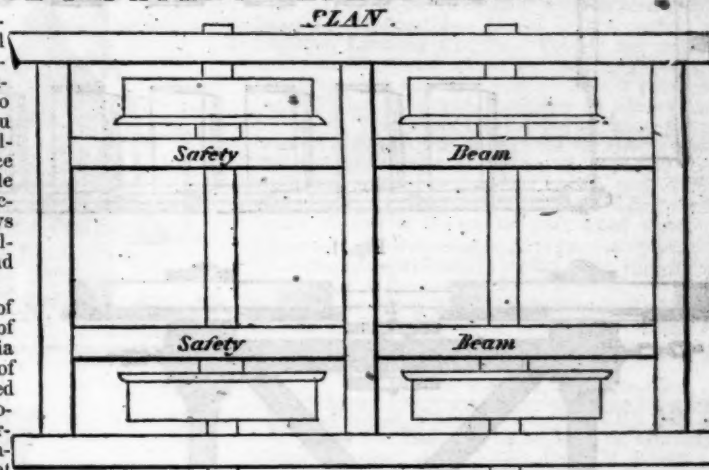
On the passage of the evening train of cars from Philadelphia to this city, an axle of our large 8 wheeled passenger car was broken, but from the particular plan of the construction, the accident was entirely unknown to any of the passengers, or, in fact, to the conductor himself, until the train, (as was supposed from some circumstances attending the case,) had passed several miles in advance of the place where the accident occurred, whereas had the car been constructed on the common plan the same kind of accident would unavoidably have much injured it, perhaps thrown the whole train off the track, and seriously injured, if not killed many of the passengers.

Wilmington, Del., Sept. 28, 1840.

The undersigned takes pleasure in attesting the value of Mr. Joseph S. Kite's invention of the Safety Beam Axle and Hub for railroad cars. They have for some time been applied to passenger cars on this road, and experience has tested that they fully accomplish the object intended. Several instances of the fracture of axles have occurred, and in such the cars have uniformly run the whole distance with entire safety. Had not this invention been used, serious accidents must have occurred.

In short, we consider Mr. Kite's invention as completely successful in securing the safety of property and lives in railroad travelling, and should be used on all railroads in the country.

JOHN FRAZER, Agent,
GEORGE CRAIG, Superintendent,
JAMES ELLIOTT, Sup. Motive Power,
W. L. ASHMEAD, Agent.
A model of the above improvement is to be seen at the New Jersey railroad and transportation office, No. 1 Hanover st., N. York.



DAVENPORT & BRIDGES' PATENT CAR AND TRUCK.

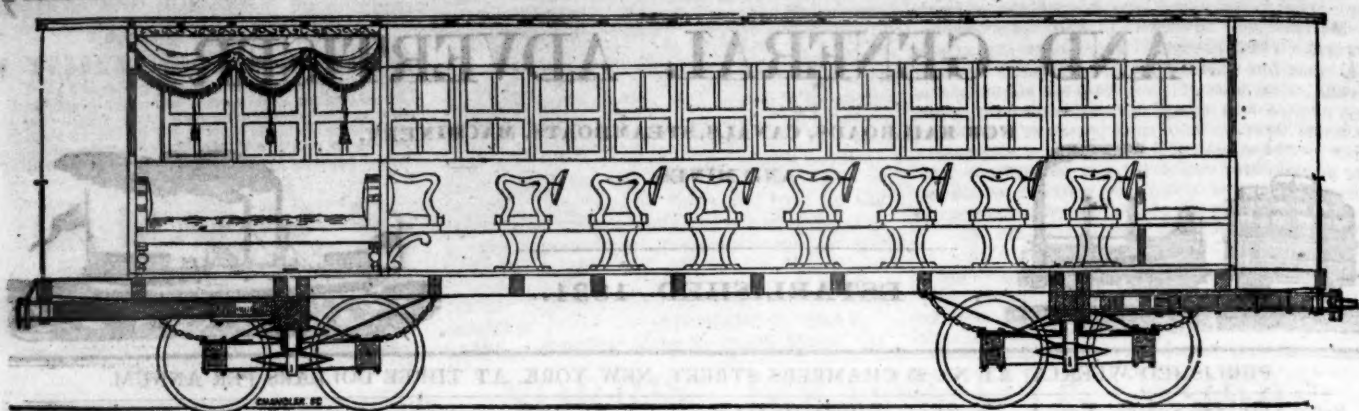


Fig. 1.

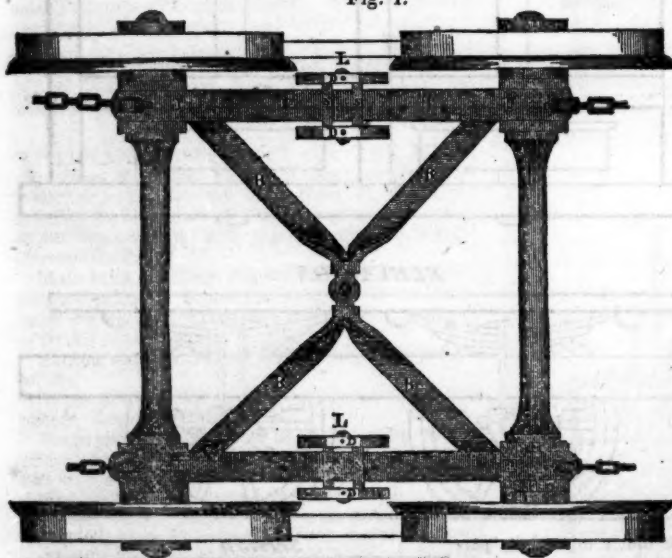
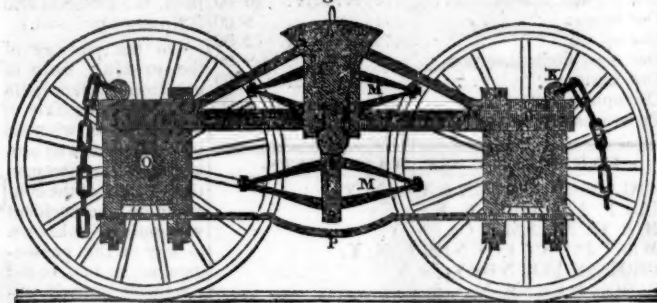


Fig. 2.



DAVENPORT & BRIDGES' IMPROVED PATENT IRON TRUCK FOR RAILROAD CARS, is presented above, and the attention of Railroad Companies is respectfully invited to the following description of their justly-celebrated invention:

Fig. 1 of the drawing above represents a top view or plan of our Improved Railroad Truck. Fig. 2 is a central, longitudinal, and vertical section. C, Fig. 1 and 2, represents the arched bars of the side trusses: they consist of two long bars of plate iron (about three inches wide by seven-eighths of an inch thick,) bent into the shape as seen in drawing 2. Each of them is placed directly over a flat and straight tie bar, A, which extends from one end to the other, as seen in Fig. 2. These parts, so arranged, receive between their ends the ends of diagonal cross bars or braces, B, which are united at their centres upon four pedestals, F, F, which receive the bearings or boxes for the axles to run on. Another flat tie bar, P, extends from the under side of one of the pedestals to that of the other, on the same side of the frame, and the whole is secured together by eight bolts, J, J, passing down through the ends of the several bars, A, B, C, and the pedestals, and on each side of the journals of the axles, O, O, in the positions represented in the drawings. From the above it will be seen that there are two bolts to each pedestal, and that this number is all that is requisite for the full security of the bars and pedestals together. The body rests and moves upon two sectional supports, D, D, arranged on the sides of the truss frames, as seen in Fig. 2; they extend somewhat, or a sufficient distance above the truss frames, and are jointed at their lower ends by means of a bolt, L, which rests upon the top of the lower spring, M, which spring rests upon a bolt passing through the lower part of the inverted strap, E, which strap passes over and rests upon the top part of the upper spring, N, which is placed within the truss frame, and rests upon the top of the bar, A.

Two bands, N, N, are passed entirely around the central part of each truss frame, the object of the same being to transfer the strain, or a portion thereof, of the spring, from the tie bar, A, to the arched bar, C.

These Trucks are adapted as well for eight-wheeled passenger cars as for baggage and freight cars, giving to each a more agreeable and easy motion than any other Truck heretofore constructed or in use. They are simple in their construction, combining strength and great durability, although weighing at least twelve hundred pounds less than the common Trucks. Besides these excellences, by reason of the elasticity of the braces, B, B, B, B, as seen in the drawing, and the other peculiarities of construction, the weight is equalized upon all the wheels, and yet any one may be raised so as to pass any inequality on the rails without lifting either of the other wheels from the track, thus rendering it almost impossible to run a car off. Being bound, and having as it were but four joinings, they are protected from injury by lateral strains, and in case of damage are easily repaired.

These excellences have been fully tested by use, for a long time, on the Eastern, the Fitchburg and Long Island railroads; and for proof of the above stated superiority of these Trucks over all others, we refer to the experience of those who have used and run them.

CAMBRIDGEPORT, April 1, 1845.

DAVENPORT & BRIDGES.

RAILROAD IRON AND LOCOMOTIVE
 Tyres imported to order and constantly on hand
 by **A. & G. RALSTON**
 Mar. 20th 4 South Front St., Philadelphia.

THE NEWCASTLE MANUFACTURING
 Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gear, of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention.
ANDREW C. GRAY,
 President of the Newcastle Manuf. Co.

CUSHMAN'S COMPOUND IRON RAILS.
 etc. The Subscriber having made important improvements in the construction of rails, mode of guarding against accidents from insecure joints, etc.—respectfully offers to dispose of Company, State Rights, etc., under the privileges of letters patent to Railroad Companies, Iron Founders, and others interested in the works to which the same relate. Companies reconstructing their tracks now have an opportunity of improving their roads on terms very advantageous to the varied interests connected with their construction and operation; roads having in use flat bar rails are particularly interested, as such are permanently available by the plan.

W. Mc. C. CUSHMAN, Civil Engineer,
 Albany, N. Y.

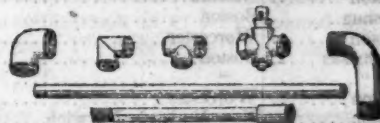
Mr. C. also announces that Railroads, and other works pertaining to the profession, may be constructed under his advice or personal supervision. Applications must be post paid.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to 1 in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T, L, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by

MORRIS, TASKER & MORRIS.
 Warehouse S. E. Corner of Third & Walnut Streets,
 PHILADELPHIA.

RAILROAD IRON.—THE MARYLAND AND NEW YORK IRON AND Coal Company are now prepared to make contracts for Rails of all kinds. Address the Subscriber, at Jennon's Run, Alleghany County, Maryland.
WILLIAM YOUNG,
 President.

451m

TO IRON MASTERS.—FOR SALE.—MILL SITES in the immediate neighborhood of **Biluminous Coal and Iron Ore**, of the first quality, at Ralston, Lyoming Co., Pa. This is the nearest point to tide water where such coal and ore are found together, and the communication is complete with Philadelphia and Baltimore by canals and railways. The interest on the cost of water power and lot is all that will be required for many years; the coal will not cost more than \$1 to \$1 25 at the mill sites, without any trouble on the part of the manufacturer; rich iron ore may be laid down still more cheaply at the works; and, taken together, these sites offer remarkable advantages to practical manufacturers with small capital. For pamphlets, descriptive of the property, and further information, apply to Archibald McIntyre, Albany, to Archibald Robertson, Philadelphia, or to the undersigned, at No. 23 Chambers street, New York, where may be seen specimens of the coal and ore.

W. R. CASEY, Civil Engineer,

VALUABLE PROPERTY ON THE MILL Dam For Sale. A lot of land on Gravelly Point, so called, on the Mill Dam, in Roxbury, fronting on and east of Parker street, containing 68,497 square feet, with the following buildings thereon standing.

Main brick building, 120 feet long, by 46 ft wide, two stories high. A machine shop, 47x43 feet, with large engine, face, screw, and other lathes, suitable to do any kind of work.

Pattern shop, 35x32 feet, with lathes, work benches, &c.

Work shop, 86x35 feet, on the same floor with the pattern shop.

Forge shop, 118 feet long by 44 feet wide on the ground floor, with two large water wheels, each 16 feet long, 9 ft diameter, with all the gearing, shafts, drums, pulleys, &c., large and small trip hammers, furnaces, forges, rolling mill, with large balance wheel and a large blowing apparatus for the foundry.

Foundry, at end of main brick building, 60x45 feet two stories high, with a shed part 45x20 feet, containing a large air furnace, cupola, crane and corn oven.

Store house—a range of buildings for storage, etc., 230 feet long by 20 wide.

Locomotive shop, adjoining main building, fronting on Parker street, 51x25 feet.

Also—A lot of land on the canal, west side of Parker st., containing 6000 feet, with the following buildings thereon standing:

Boiler house 50 feet long by 30 feet wide, two stories.

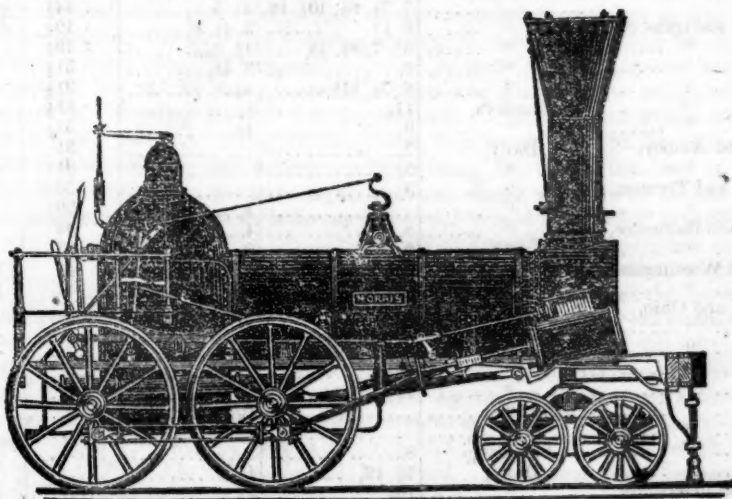
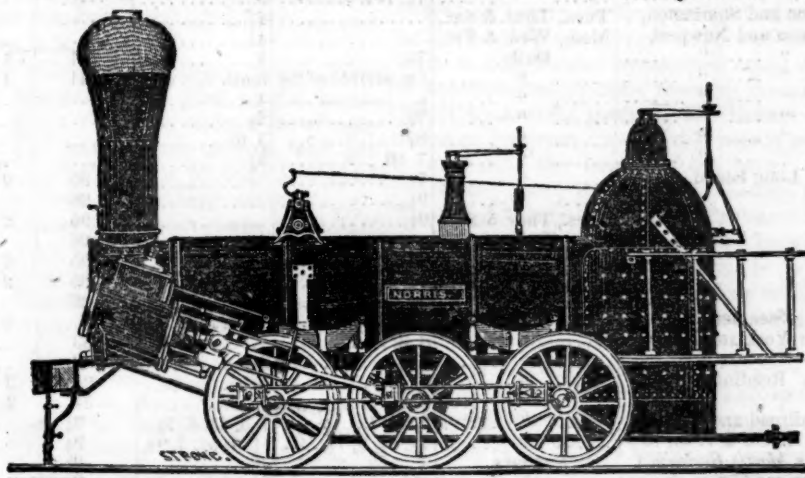
Blacksmith shop, 49 feet long by 20 feet wide.

For terms, apply to **HENRY ANDREWS, 48 State st.,** or to **CURTIS, LEAVENS & CO., 106 State st., Boston,** or to **A. & G. RALSTON & Co., Philadelphia.**

CYRUS ALGER & CO., South Boston Iron Company.

NORRIS' LOCOMOTIVE WORKS

BUSH HILL, PHILADELPHIA, Pennsylvania.



MANUFACTURE their Patent 6 Wheel Combined and 8 Wheel Locomotives of the following descriptions, viz:

Class	1,	15 inches Diameter of Cylinder,	× 20 inches Stroke.
"	2,	14	" " " × 24 " "
"	3,	14½	" " " × 20 " "
"	4,	12½	" " " × 20 " "
"	5,	11½	" " " × 20 " "
"	6,	10½	" " " × 18 " "

With Wheels of any dimensions, with their Patent Arrangement for Variable Expansion. Castings of all kinds made to order: and they call attention to their Chilled Wheels for the Trucks of Locomotives, Tenders and Cars.

NORRIS, BROTHERS.

TRAINS LEAVE	FOR	BY	RAILROAD	DAYS.	A. M.	P. M.	MILES.	FARE
Boston	Portland	Eastern,	Daily,	7 $\frac{1}{2}$	2 $\frac{1}{2}$	106	\$3 00	
"	Portsmouth	"	"	7 $\frac{1}{2}$	2 $\frac{1}{2}$, 4 $\frac{1}{2}$	54	2 00	
"	Newburyport	"	"	7 $\frac{1}{2}$	2 $\frac{1}{2}$, 4 $\frac{1}{2}$	35	1 25	
"	Salem	"	"	7 $\frac{1}{2}$, 9, 11 $\frac{1}{2}$	2 $\frac{1}{2}$, 3 $\frac{1}{2}$, 4 $\frac{1}{2}$, 6	14	50	
"	Portland	Boston and Maine,	"	7 $\frac{1}{2}$	2 $\frac{1}{2}$	109	3 00	
Portland	Boston	"	"	7 $\frac{1}{2}$	3	109	3 00	
Boston	Lowell	Boston and Lowell,	"	7, 11	2, 5	26	75	
Lowell	Boston	"	"	7 $\frac{1}{2}$, 11	2, 4 $\frac{1}{2}$, 5 $\frac{1}{2}$	26	75	
Boston	Concord	Concord,	"	"	3 $\frac{1}{2}$	76	2 00	
Concord	Boston	"	"	"	3 $\frac{1}{2}$	76	2 00	
Boston	Nashua	Nashua and Lowell,	"	7, 11	5	41		
Nashua	Boston	"	"	6 $\frac{1}{2}$	1 $\frac{1}{2}$, 5	41		
Boston	Worcester	Boston and Worcester,	"	7, 9	2 $\frac{1}{2}$	44	1 25	
Worcester	Boston	"	"	7, 10	6	44	1 25	
"	"	"	Sundays,	7				
Boston	Worcester	"	"	"	2			
Boston	New York via Norwich	"	Mon., Wed. & Fri.,	4				
"	" " L. Island railroad	"	Tues., Thur. & Sat.,	7				
"	" " New Haven	"	Daily,	9	2 $\frac{1}{2}$			
"	Albany	Western,	"	9	2 $\frac{1}{2}$	200	6 00	
Albany	Boston	"	"	8 $\frac{1}{2}$	1 $\frac{1}{2}$	200	6 00	
Springfield	Boston and Albany	"	"	7	3			
Boston	New York via New Haven	"	"	7	2 $\frac{1}{2}$			
Charlestown	West Acton	Fitchburg,	"	8	1, 4 $\frac{1}{2}$			
West Acton	Charlestown	"	"	7 $\frac{1}{2}$, 10 $\frac{1}{2}$	5			
Boston	New York, via Steamboat trains	Boston and Stonington,	Tues., Thur. & Sat.,	4 $\frac{1}{2}$				
"	" " " "	Boston and Newport,	Mon., Wed. & Fri.,	4 $\frac{1}{2}$				
"	Providence	"	Daily,	7 $\frac{1}{2}$	4 $\frac{1}{2}$	41	1 50	
Providence	Boston	"	"	On arrival of the	mail.	41	1 50	
Taunton	"	"	"	8	4			
New Bedford	Boston	"	"	7 $\frac{1}{2}$	2 $\frac{1}{2}$			
Boston	Dedham	"	"	8 $\frac{1}{2}$	3, 6 $\frac{1}{2}$			
Dedham	Boston	"	"	7, 10	5 $\frac{1}{2}$			
New York	Greenport	Long Island,	"	7 $\frac{1}{2}$		95	2 25	
Brooklyn	Hicksville & intermediate places	"	"	9 $\frac{1}{2}$		26	56 $\frac{1}{2}$	
"	Greenport	"	Tues., Thur. & Sat.,	9 $\frac{1}{2}$		95	2 25	
"	Hicksville, (Satur'd'y to Suffolk)	"	Daily,	4		26	56 $\frac{1}{2}$	
Greenport	Brooklyn, (Boston train)	"	"	1		95	2 25	
"	" (accommodation do.)	"	Mon., Wed. & Fri.,			95	2 25	
Hicksville	" & intermediate places	"	Daily,	7	1 $\frac{1}{2}$	26	56 $\frac{1}{2}$	
New York	Albany & Boston via N. Haven	Steamer;	"	6 $\frac{1}{2}$			5 00	
"	Middletown	New York and Erie,	"	8, 3		53		
Middletown	New York	"	"	6 $\frac{1}{2}$	3 $\frac{1}{2}$	53		
Philadelphia	Pottsville	Reading,	"	9		94	3 50	
Pottsville	Philadelphia	"	"	9		94	3 50	
New York	Newark	N. J. railroad and trans. co.,	"	9, 11, 12	2, 3, 4 $\frac{1}{2}$, 6, 7 $\frac{1}{2}$	9 $\frac{1}{2}$	25	
Newark	New York	[9 A. M. and 3 P. M., connect with Morris Railroad.]	"	7 $\frac{1}{2}$, 8 $\frac{1}{2}$, 9, 11	1 $\frac{1}{2}$, 4, 5 $\frac{1}{2}$, 7, 9 $\frac{1}{2}$	9 $\frac{1}{2}$	25	
"	"	"	Sundays,	9	4 $\frac{1}{2}$	9 $\frac{1}{2}$	25	
New York	Newark	[9 A. M. and 4 $\frac{1}{2}$ P. M., trains, connect with Somerville Railroad.]	Daily,	11 $\frac{1}{2}$	9 $\frac{1}{2}$	9 $\frac{1}{2}$	25	
"	Elizabethtown	"	"	9, 11	2, 3 $\frac{1}{2}$, 4 $\frac{1}{2}$, 6	14 $\frac{1}{2}$	31 $\frac{1}{2}$	
Elizabethtown	New York	"	"	7, 7 $\frac{1}{2}$, 8 $\frac{1}{2}$, 10 $\frac{1}{2}$, 12	3 $\frac{1}{2}$, 5	14 $\frac{1}{2}$	31 $\frac{1}{2}$	
New York	Rahway	N. J. railroad and trans. co.,	"	9, 11	3, 4 $\frac{1}{2}$, 6	19 $\frac{1}{2}$	31 $\frac{1}{2}$	
Rahway	New York	"	"	6 $\frac{1}{2}$, 7, 8 $\frac{1}{2}$, 12	4 $\frac{1}{2}$, 9 $\frac{1}{2}$	19 $\frac{1}{2}$	31 $\frac{1}{2}$	
New York	New Brunswick	"	"	9	3, 4 $\frac{1}{2}$	31 $\frac{1}{2}$	50	
New Brunswick	New York	"	"	6, 7 $\frac{1}{2}$, 11 $\frac{1}{2}$	8 $\frac{1}{2}$	31 $\frac{1}{2}$	50	
"	"	"	Sundays,	11 $\frac{1}{2}$	8 $\frac{1}{2}$	31 $\frac{1}{2}$	50	
New York	New Brunswick	"	"	9	4 $\frac{1}{2}$	31 $\frac{1}{2}$	50	
Philadelphia	New York	Camden and Amboy,	Daily,	7		91	3 00	
New York	Philadelphia	"	"	5 $\frac{1}{2}$		91	3 00	
Philadelphia	Bristol	Philadelphia and Trenton,	"	9		30	75	
Bristol	Philadelphia	"	"		4	30	75	
Philadelphia	Baltimore	Philad. Wil. and Baltimore,	"	8	4	93		
Baltimore	Philadelphia	"	"	9	8	93		
"	Washington	Baltimore and Washington,	"	9	5, 11 $\frac{1}{2}$	41	2 50	
Washington	Baltimore	"	"	6	5 $\frac{1}{2}$	41	2 50	
Baltimore	Cumberland and inter. places	Baltimore and Ohio,	"	7 $\frac{1}{2}$				
Cumberland	Frederick	"	"	8	4			
Hancock	"	"	"	10 $\frac{1}{2}$				
Martinsburg	"	"	"	11 $\frac{1}{2}$				
Harper's Ferry	"	"	"		12 $\frac{1}{2}$			
Frederick	"	"	"		2			
"	"	"	Sundays,	8				
Ellicott's Mills	"	"	Daily,	7 $\frac{1}{2}$, 12	4 $\frac{1}{2}$			
Richmond	Petersburg	Richmond and Petersburg,	"	10 $\frac{1}{2}$	1 $\frac{1}{2}$			
Petersburg	Richmond	"	"	5 $\frac{1}{2}$				
Albany	Schenectady	Mohawk and Hudson,	"	8	5 $\frac{1}{2}$			
Schenectady	Albany	"	"	9	3 $\frac{1}{2}$			
Albany	Saratoga	"	"	7 $\frac{1}{2}$	2			
Saratoga	Albany	"	"	7	12 $\frac{1}{2}$, 5			
Troy	Saratoga	Troy and Saratoga,	"	7 $\frac{1}{2}$	3 $\frac{1}{2}$			
Saratoga	Troy	"	"	8				
Auburn	Rochester	Auburn and Rochester,	"	8 $\frac{1}{2}$				
Rochester	Auburn	"	"	8	3			
"	Buffalo	Rochester and Buffalo,	"		3			
Buffalo	Rochester	"	"					
"	Falls	Buffalo and Falls,	"	9				
Falls	Buffalo	"	"		1 $\frac{1}{2}$			
Buffalo	Albany	Albany and Buffalo	"	8 $\frac{1}{2}$				

Uniformity of Gauge.

This subject is now causing much excitement in England. It is one of great importance, and one which early received attention in this journal, as may be seen in the number of 21st January 1832! in an article from an esteemed correspondent of that period and from whom we should be much pleased to hear again. Uniformity in the width of track was frequently referred to and urged upon engineers—yet, as in many other matters, *experience* only enabled them to decide on what is, upon the whole, the proper width; and in arriving at a decision, a diversity of widths has come into use; and even now, it would seem that the question of *what is the best gauge* is far from being settled.

We copy from the latest number of Herapath's Journal, the editor's remarks upon this subject.

No man can doubt the desirableness of one uniform gauge, if at any reasonable cost it could be attained. Mr. Cobden has therefore done wisely in bringing it forward, even now late as it is.

Great difference of opinion existed at first among engineers as to what should be the proper gauge. Most of them were of opinion that the present is too narrow, and perhaps if the whole was to be done over again we should have it something wider.

The reasons for a wider gauge were chiefly two—one, that the present gauge would be dangerous at high speeds, and the other, that it did not afford scope for that powerful machinery in locomotives necessary for attaining very high velocities. Greater research and experience have exploded the first and along with it, one of the arguments of Mr. Brunel for his broad gauge. He asserted, that by increasing the gauge he should be able to use higher wheels on the carriages and engines, and that these higher wheels on the carriages would work with less friction, and therefore, more economy. The less friction with high wheels, we at first opposed as being contrary to the results of experiment, which showed that slipping friction is independent of velocity, and the rolling friction on railways is insignificant; and experience has taught Mr. Brunel that we were right, for he has abandoned his high wheels for carriages.

In respect of the engines, this fact is enough. There are or were about his company's premises engines with 10 feet wheels, which cost some £30,000 or £40,000, and have never been used, for one very good—and to all other men's minds, except Mr. Brunel's until he tried them—very obvious reason, namely, that they did not possess the power to work. They are of course laid aside and the company have gradually come down to more reasonable dimensions, we believe to 6 or 6½ to 7 feet wheels.

The second reason, that is, that the narrow gauge does not afford room for machinery competent to compass high velocities, was no doubt good at the time, but by a better arrangement and larger boilers, Stephenson has got over the difficulty.

To understand this point, the reader should be informed, that the power of an engine to draw great loads at moderate velocities, and small loads at high velocities, depends on two very different qualities. One is the

weight of the engine combined with cylinders large enough to use it, and a boiler to supply steam moderately fast. Hence, heavy engines with coupled wheels, are generally required to exhaust all the weight of the engine. The other depends not so much on the weight of the engine, which is seldom or never taxed to the full or a fourth, as on the power of the boiler to generate steam rapidly. This, Mr. Stephenson's new engine, combined with an expansive apparatus, does effectually, and appears, by an improvement lately introduced of double valves one above the other, with an advance of excentric to close the parts earlier, to be capable of still greater improvement. In these engines, it is not great statical power, but an abundant supply, and a proper husbanding, of steam that are wanting. In short, for heavy loads, weight of engine is the principal element, but for high speeds a rapid supply of steam. This, at first, Brunel maintained could only be accomplished by more room for the boiler, that is, by a wider gauge. Mr. Robert Stephenson, however, has cut this reason away by increasing the length of the boiler, and generating more steam with the same fuel. The simplification which he at the same time gave to the working gear, and the improvements which have lately been made in the valves, have at length furnished us with the means of economising this steam so much as in fact to give us much more than we want. Both Brunel's reasons, therefore, for the broad gauge, whatever plausibility they had in the first instance, now no longer exist.

If then there be any change of gauge, reason tells us that it should be from the broad to the narrow gauge. Not only is it the gauge containing some four or five times the number of miles in operation, but the change could be made at incomparably less cost, and without any danger to the public or delay in the traffic. Another rail within each of the outer rails would do it as far as the road is concerned; for which the road is prepared and only wants the rails to be laid down.—The cost would be under £80,000. In a month or less after the materials are procured, the whole may be done with a proper force. All the tunnels, all the cuttings, bridges and embankments, which do for the broad gauge will equally do for the narrow. But as it was well observed in the house, and is stated by one of our correspondents, if the converse is to be done—the narrow turned into the broad—the whole work must be changed. More land must be bought; the bridges, tunnels, embankments and cuttings, must all be widened. At a moderate estimate, the cost of the change would be from a fourth to a third of the entire cost of the line. Twenty millions would not do it; and as to the time required, no one could calculate it. Of the danger, too, attending widening tunnels, we have had a specimen by the falling in of the tunnel while it was widening on the Newcastle and Carlisle railway. To talk of changing the narrow to the broad gauge, would be very little short of insanity.

That a change would be desirable to one uniform gauge is too evident for discussion.

We can only say that we shall be glad to see it for the convenience of the public principally, but also to prevent these unseemly strifes which we have lately witnessed between the gauges; and we wish, therefore, every success to Mr. Cobden's motion on Wednesday evening, which we are glad to see was well received by the house.

A commission is to be appointed for the purpose. We only hope it will be a judicious one.

East Indian railways.—The court of directors have appointed an experienced person as surveyor of railways in India, at a salary of £4,000 a-year for five years, and £500 for his passage, etc, out, and the same sum home. This looks as if the important subject had engaged the serious thoughts of the Indian authorities, who must be fully sensible of rendering remote distances easily accessible. It may be long before, as a means of passenger transit, these railways may be much used by the native population (always averse to innovation,) but for the conveyance of produce they must be of immense advantage, and tend to lessen the inequalities which exist between Indian articles of export and those of more favored lands. The merchant and the government are, therefore, in this sense, equally interested in the success of the scheme, while for the conveyance of troops it is impossible to conjecture the full extent of benefit which may result from railway facilities. The journey by way of the Ganges from Calcutta to Cawnpore, for example, occupies a greater period of time than the passage from England to India. How desirable, then, it must be to lessen the tediousness of this and similar routes.—[Times.]

Atmoipheric Railway.—At the sitting of the Academy of Sciences on Saturday last, says the Paris correspondent of the National Intelligencer of 1st July, M. Arago reported a new apparatus for the Atmospheric railway, which he described as an important improvement in respect to speed and safety. In England, at the late meeting of the directors of the London and Croyden Atmospheric railway:

“Mr Joseph Samuda, one of the patentees of the atmospheric railway, said he would undertake to work fifteen trains per day each way, at an average travelling speed of forty miles an hour, from one end of the line to the other, the average weight of each train being from 30 to 40 tons.

“Mr. Gibbon, the acting engineer of the Dalkey railway, said that the atmospheric system worked with a precision and regularity which did not belong to the locomotive. During the greater part of Sunday last ten trains were running per hour, each train weighing about 40 tons. The cost of working is in the proportion of ten to twelve in favor of the atmospheric system over the locomotive.”

New Engine.—A new locomotive of great power, made by Hinckley and Drury, and called the *Alvah Crocker*, has just been placed upon the Fitchburg road, for the freight train.—[Bunker Hill Aurora.]

ENGLISH RAILROAD SHARE-LIST.

NAME OF RAILWAY.	Miles opened.	Total sums, in pounds, authorized to be raised by shares.	Total sums, in pounds, authorized to be raised by loan or mortgage.	Total sums, in pounds, expended at date of latest balance sheet.	Cost of working in pounds for six months as stated in latest balance sheet.	Total earnings, in pounds, for six months as stated in latest balance sheet.	Dividend at last meeting.		Paid on share.	Value of share.	NEW AND PROPOSED RAILWAYS.	Share Capital.
							Per share.	Per cent. per annum.				
Arboath and Forfar.....	15	102,000	35,000	138,870	.....	.....	0 12 6 2	10 0	25	27	Aberdeen.....	1,600,000
Birmingham and Gloucester.....	55	1,187,500	407,336	1,500,806	39,261	53,203	1 5 0 2	10 0	100	100	Barnsley Junction.....	200,000
Branding Junction.....	23	161,700	365,470	481,452	.....	.....	.....	4 10 0	50	54	Belfast and Ballymena.....	385,000
Bristol and Gloucester.....	37 1/2	400,000	211,000	.....	.....	.....	.....	nihil.	30	36	Blackburn and Accrington.....	400,000
Chester and Birkenhead.....	14 1/2	750,000	143,170	518,989	5,856	13,148	0 8 6 1	14 0	50	32	Birk. and Ches. Junction.....	1,000,000
Dublin and Drogheda.....	31	450,000	150,000	500,869	.....	.....	.....	nihil.	55	72	Bolt, Wigan and Liverpool.....	800,000
Dublin and Kingston.....	6	200,000	152,200	359,000	.....	.....	6 0 0 6	0 0	100	166	Caledonian.....	1,800,000
Dundee and Arbroath.....	16 1/2	100,000	49,445	153,416	2,989	6,993	1 5 0 5	0 0	25	29	Cambridge and Lincoln.....	1,250,000
Durham and Sunderland.....	18 1/2	169,350	124,055	270,392	9,889	17,702	.....	nihil.	34	29	Chatham and Portsmouth.....	5,000,000
East County and North and East.....	86 1/2	4,443,200	1,341,155	3,931,905	47,385	118,726	1 6 6	.....	45	57	Chester and Wrexham.....	120,000
Edinburgh and Glasgow.....	46	1,125,000	375,000	1,649,523	29,429	55,866	2 6 4	10 0	50	57	Churnet valley.....	1,800,000
Glasgow, Paisley and Ayr.....	51	937,500	1,066,951	12,446	36,736	1 2 6 4	10 0	.....	50	60	Direct Northern to York.....	4,000,000
Glasgow, Paisley and Greenock.....	22 1/2	650,000	216,666	787,884	11,572	23,177	0 5 0 2	0 0	25	12	Dublin and Belfast.....	950,000
Grand Junction.....	104	2,478,712	2,453,169	84,309	195,080	5 0 0 10	0 0	100	210	166	Dundee and Perth.....	256,000
Great North of England.....	45	969,000	581,017	1,262,518	12,201	36,189	1 12 6 3	5 0	100	119	Edinburgh and Northern.....	800,000
Great Western.....	121 1/2	4,650,000	3,679,343	7,272,539	132,235	369,904	3 10 0 7	0 0	75	138	Ely and Bedford.....	270,000
Hartlepool.....	15 1/2	438,000	155,540	719,205	.....	.....	.....	8 0 0	100	.....	Glasgow, Dumf. & Carlisle.....	1,300,000
Leicester and Swannington.....	16 1/2	140,000	.....	140,000	2,207	6,317	1 5 0 5	0 0	50	.....	Gt. South and West Ext.....	1,200,000
Liverpool and Manchester.....	32	1,209,000	497,750	1,739,835	57,239	117,559	5 0 0 10	0 0	100	203	Gt. Grimsby and Sheffield.....	600,000
Llanelly.....	27	200,000	44,000	221,624	.....	.....	1 0 0 2	0 0	87	.....	Harwich and E. coun. Jun.....	160,000
London and Birmingham.....	112 1/2	6,874,976	1,928,845	6,393,468	92,823	405,768	.....	10 0 0	100	218	Huddersfield & M. r. & c. l.....	60,000
London and Blackwall.....	3 1/2	804,000	266,000	1,315,640	15,978	23,870	.....	.....	16	6	Kendal and Windermere.....	125,000
London and Brighton.....	56 1/2	1,793,800	998,350	2,630,451	29,372	84,880	0 12 0	2 8 0	50	47	Leeds and Dewsbury.....	400,000
London and Croyden.....	8 1/2	550,000	229,000	761,885	7,583	10,545	0 5 0	2 10 0	14	17	Leeds and Thirsk.....	800,000
London and Greenwich.....	34	759,383	233,300	1,040,930	15,193	28,933	.....	nihil.	13	10	Liv. Ormskirk and Preston.....	600,000
London and South Western.....	92 1/2	2,222,100	630,100	2,596,291	68,457	150,469	1 12 6 6	10 0	41	73	London and Portsmouth.....	1,750,000
Manchester and Birmingham.....	31	2,100,000	690,586	1,923,699	15,397	58,162	1 0 6 5	0 0	40	48	London and York.....	5,000,000
Manchester and Bolton.....	10	778,100	197,730	773,743	8,565	21,140	2 2 0	4 10 0	93	110	Londonderry & Enniskillen.....	500,000
Manchester and Leeds and Hull.....	81	2,937,500	1,943,932	3,921,593	46,653	156,761	7 1 10 1	.....	60	88	Lynn and Ely.....	200,000
Midland railway.....	178 1/2	5,158,900	1,719,630	6,279,056	76,983	281,898	.....	.....	100	96	Manchester, Bury and Ross.....	300,000
Newcastle and Carlisle.....	61	878,240	188,563	1,135,069	26,499	73,947	4 0 0	4 0 0	100	105	Manchester and Buxton.....	250,000
Newcastle and Darlington.....	23	500,000	.....	405,728	.....	.....	.....	nihil.	21	49	Mullingar and Athlone.....	.....
Newcastle and North Shields.....	7	150,000	153,876	309,629	8,943	18,466	.....	2 0 0	50	37	Newcastle and Berwick.....	700,000
North Union.....	39	739,201	308,306	1,015,417	9,071	37,794	2 10 0	6 16 8	100	104	Richmond & W. End June.....	.....
Paris and Orleans.....	82	1,600,000	400,000	1,978,415	.....	.....	0 16 0	8 0 0	20	39	Scottish Central.....	700,000
Paris and Rouen.....	84	1,440,000	.....	31,247	91,171	.....	.....	8 0 0	20	38	Sheffield and Lincolnshire.....	650,000
Preston and Wyre.....	19	830,000	179,852	355,161	4,191	7,066	.....	nihil.	50	18	Shrewsbury and Gd. June.....	400,000
Sheffield and Manchester.....	19	1,150,000	311,759	951,455	11,895	14,876	.....	nihil.	82	93	Shrew. Wolv. Dudley & B.....	900,000
South Eastern.....	88	2,996,000	1,530,277	3,464,172	40,993	81,482	0 10 6	2 2 0	50	39	Trent Valley.....	900,000
Taff Vale.....	30	465,000	154,785	590,006	8,509	18,414	0 0 6	5 0 0	100	55	West London Extension.....	64,000
Ulster.....	25	519,150	20,000	348,626	5,401	13,856	0 15 0	5 1 8	29	37	West Yorkshire.....	1,000,000
Yarmouth and Norwich.....	20 1/2	187,500	62,500	230,250	.....	.....	.....	nihil.	16	25	Whitehaven and Maryport.....	100,000
York and N. Mid. and Leeds and Selby.....	28	1,062,500	167,500	676,644	27,132	55,752	2 10 0	10 0 0	50	100	FRENCH RAILWAYS.	

Steam and Miscellaneous.

NAME OF COMPANY.	Num. of shares.	Am't. of share.	Amount paid.	Div. p.c. per ann.	Last price.	Present price.	NAME OF COMPANY.	Num. of shares.	Am't. of share.	Amount paid.	Div. p.c. per ann.	Last price.	Present price.
Anglo Mexican Mint.....	10,000	10	10	.....	15 1/2	15 1/2	Loughborough.....	70	142 1/2	142 1/2	70	1140	160
Anti Dry Rot.....	10,000	.....	18 1/2	.....	2	.....	Monmouthshire.....	2,409	100	100	10	160	160
Australian Trust Company.....	5,700	100	35	.....	34 1/2	.....	Melton Mowbray.....	250	100	100	10	117	117
General Steam Navigation.....	20,000	15	14	10	27 1/2	27	Mersey and Irwell.....	500	100	100	10	.....	.....
Gt Western Steam Pa.....	.....	.....	100	.....	25	.....	Macclesfield.....	3,000	100	100	2 1/2	15	15
Metropolitan Wood Pav.....	15,000	10	6	5	6 1/2	.....	Neath.....	247	100	100	17	365	365
Patent Elastic Pav.....	10,000	1	1	5	14	.....	Oxford.....	1,786	100	100	30	505	.....
Peninsular and Oriental.....	11,493	50	50	7	64 1/2	65	Regents or Loncon.....	21,418	33 1/2	33 1/2	2 1/2	25	25
Ditto.....	3,200	50	40	7	.....	.....	Shropshire.....	500	125	125	6	120	120
Polytechnic Institution.....	.....	.....	6	.....	.....	.....	Somerset coal.....	800	150	150	7 1/2	123	123
Reversionary Int. Soc.....	5,387	100	100	4 1/2	104	104	Stafford and Worcester.....	700	140	140	25	480	480
R. Mail Steam Packet.....	15,000	100	60	.....	36 1/2	37	Shrewsbury.....	500	125	125	12	230	230
South Western Steam.....	4,000	25	5	.....	.....	.....	Stourbridge.....	300	145	145	14	360	360
Ship Owners' Towing.....	3,000	10	7 1/2	10	15	.....	Stroudwater.....	200	150	150	19	.....	.....
Thames Tunnel.....	4,000	50	50	.....	.....	.....	Swansea.....	533	100	100	15	240	240
University College.....	1,500	100	.....	.....	.....	.....	Sewer & Why & Rail Av.....	3,762	26 1/2	26 1/2	5 1/2	30	30
Canals.							Trent and Mersey.....	2,600	50	50	65	495	.....
Ashby de la Zouch.....	1,432	113	av.	4	70	70	Thames and Medway.....	8,149	19 1/2	19 1/2	.....	10	10
Barnsley.....	720	100	100	14	180	180	Warwick and Birmingham.....	1,000	100	100	10 1/2	167	.....
Birmingham, 1-16 share.....	3,000	118 1/2	79	10	150	160	Warwick and Napton.....	980	100	100	8 1/2	122	.....
Do. and Liverpool Junction.....	4,000	160	100	.....	13 1/2	13 1/2	Water Works.						
Coventry.....	500	100	100	20	365	365	Birmingham.....	4,800	25	25	3 1/2	28	28
Cromford.....	460	do.	do.	24	250	250	East London.....	4,433	100	100	8	223	225
Derby.....	600	do.	do.	9	105	105	Grand Junction.....	5,500	av.	41 2-3	7 1/2	88	90
Erewash.....	231	do.	do.	32	440	440	New River L. B. Ann.....	1,500	.....	.....	2 1/2	57	57
Forth and Clyde.....	1,297	400 1/2	40 1/2	4	440	440	Manchester and Salford.....	6,486	av.	30	8 1/2	55	55
Grand Junction.....	11,600	100	100	7	162	161 1/2	Vauxhall, Lt. S. London.....	1,000	.....	100	5	55	55
Grand Surrey.....	1,500	do.	do.	.....	20	.....	West Middlesex.....	8,294	a.	63 1/2	6 1/2	126	127
Gloucester and Berkley.....	5,000	do.	do.	.....	8	8	Docks.						
Grantham.....	749	150	150	8	185	185	Commercial Dock.....	1,065	100	100	3	137	.....
Lancaster.....	11,699	47 1/2	47 1/2	3	40	40	East and West India.....	.....	sto.	.....	5 1/2	114 1/2	115
Leeds and Liverpool.....	2,897	100	100	34	640	640	London.....	3,238,310	sto.	.....	4 1/2	116	171
Leicester.....	545	140	140	9	139	139	St. Katharine.....	1,352,752	sto.	.....	5	116	171
							Southampton.....	7,000	50	50	.....	.....	.....

AMERICAN STATE WORKS AND CANALS, ETC.

STATE WORKS.		Length in miles.	Cost.	1843.		1844.		The State Canals are all 4 feet deep, and the locks a 13 to 17 feet wide, and 80 to 90 feet in length.
				Income.	Expend.	Income.	Expend.	
N. Y.	1. Black river canal.....	35	1,524,967					The six millions paid to the canal fund from auction and salt duties are not included in the estimate of cost. The Genesee valley and the Black river canals require large sums for their completion, the interest of which additional sum is much greater than the estimated gross income of these canals when finished. The sums re- quired to complete these two canals are \$2,000,- 000 and \$600,000, making their total cost when finished \$5,553,000 and \$2,409,000; an expendi- ture incurred on estimated incomes (admitted to be liberal,) of \$39,000 and \$14,000 respectively. The total receipts from the works of Pennsyl- vania for 1843 were \$1,019,401; for 1844 \$1,- 164,326, and the cost about 30 millions. The receipts for 1844 were as follows: Canal tolls, 578,404 Railroad tolls, 252,855 Motive power, 319,500 Trucks, 13,477 of which \$585,922 is from 118 miles of railroad- and \$578,404 from 550 miles of canal. The canals of Ohio are supported by a prop- erty tax of 5 1/2 mills on the dollar. There a- 853 miles of canal in the State, which yielded in 1843 \$471,623, and in 1844 \$515,393, the cost, 1st Jan. '43 being \$15,577,233. The increase of '44 over '43 is only \$43,770, though the year '44 has exhibited a greater increase throughout the country than ever before known. These 21 millions on sundry works yield no income whatever. The central railroad yields above 6 per cent., and is the only State work—the Erie canal ex- cepted—which is able to stand alone.
"	2. Cayuga and Seneca.....	21	237,000	16,557	10,953	24,618	14,443	
"	3. Champlain canal.....	64	1,251,604	102,308		116,739		
"	4. Chemung.....	23	684,600	8,140	14,486	14,385	12,740	
"	5. Chenango.....	97	2,420,000	16,195	15,967	22,179	15,960	
"	6. Crooked lake.....	8	156,777	461	3,674	1,498	3,951	
"	7. Erie—enlargement of.....	363	12,648,852	1,880,316				
"	8. Genesee valley.....	120	3,739,000					
"	9. 52 miles opened, cost \$1,500,000.....			12,292	13,819	19,641	15,557	
"	10. Oneida lake.....	6	50,000	225	2,239	621	1,636	
"	11. Oswego.....	38	565,437	29,147	22,742	56,165	28,599	
Pa.	12. Beaver division canal.....	25				7,381	5,386	
"	13. Delaware canal.....	60				109,278	22,870	
"	14. French creek.....	45						
"	15. Seneca river towing path.....		69,276			381		
"	16. Columbia railroad.....	82				443,336	205,067	
"	17. Eastern division.....	36				179,781	138,915	
"	18. Juniata canal.....	93						
"	19. Portage railroad.....	130				351,102	248,943	
"	20. Western division canal.....	105						
"	21. North branch Susquehanna canal.....	73				101,949	57,633	
"	22. West ".....	72						
Ohio	23. Hocking canal.....	56	975,130	4,757		5,286	4,139	
"	24. Miami canal.....	85	1,660,742	68,640	38,826	77,844	22,341	
"	25. Miami extension.....	105	2,856,636	8,291		12,723	14,741	
"	26. Miami northern division.....	35	322,000			unfin'd.		
"	27. Muskingum.....	91	1,627,318	23,167		29,385	15,027	
"	28. Ohio.....	334	4,600,000	322,754	123,398	343,711	113,210	
"	29. Wabash.....	91	3,028,340	35,922	6,400	48,589	12,817	
"	30. Walhonding.....	25	607,269	838	39,005	1,977	1,238	
"	31. Western road.....	31	255,015	7,254	1,782	8,747	2,929	
Ind.	32. Sundry works.....		11,000,000					
"	33. Maumee canal.....							
Ill.	34. Sundry works.....		10,000,000					
Mich.	35. Central railroad.....	110	1,842,308	149,987	75,960	211,170	89,420	
"	36. Southern railroad.....	68	936,295	24,064	7,907	60,341	70,000	

CANALS.		Length in miles.	Cost.	1843.		Div. per cent.	1844.		Div. per cent.	Value of stock.	REMARKS.
				Gross.	Nett.		Gross.	Nett.			
	Blackstone.....	25	400,000								We may, perhaps, at some future time be enabled to give the particu- lars of all these canals. The Chesapeake and Ohio canal is not yet completed to the coal mines, hence its trifling income. The enlargement of the Schuyl- kill canal has been commenced. The Morris canal was lately sold for one million, about one-fourth of its cost. It is said in the papers that it is to be enlarged. We have seen no report, nor heard of the ap- pointment of any engineer.
	Bald Eagle Navigation.....	25	1,000,000								
	Beaver and Sandy, (part).....										
	Charleston, (S. C.).....	184	12,370,470	47,637							
	Chesapeake and Ohio.....	12	300,000								
	Conestoga.....	13									
	Delaware and Chesapeake.....	108	3,500,000	279,795	102,221		190,693	120,624		26	
	Schuylkill.....									31	
	Farmington.....										
	James river and Kenhawa.....										
	Middlesex.....	10	200,000								
	Port Deposit.....	43	2,900,000	99,623	53,327		131,491	84,455			
	Delaware and Raritan.....	45	300,000								
	Southwark.....	80	2,900,000								
	Tide Water.....	101	2,000,000								
	Union.....		1,000,000							28	
	Morris.....										
	Dismal Swamp.....										

CANADIAN CANALS.		Length in miles.	No. of locks.	Lockage in feet.	Length of chamber.	Size of locks.		Width of canal.	Estimate.	Expended to Sept. 1843.	Income.	
						feet.	feet.	feet.			1843.	1844.
The Welland canal.....												
{ Main trunk from Port Colborne to Port Dalhousie.....		28	31	328	150	26 1-2	8 1-2	45	81	3,948,572	2,485,572	64,658
{ Junction branch to Dunville.....		21	1	6	150	26 1-2	8 1-2	35	71			
{ Broad creek branch to Port Maitland.....		1 1-2	1	6	200	45	9	45	85			
The St. Lawrence canal.....												
{ Galops and Port Cardinal.....		2	2	7	200	45	9	50	90			
{ Rapid Plat.....		4	2	11 1-2	200	45	9	50	90	672,498	973	
{ Farren's point.....		3-4	1	3 1-2	200	45	9	50	90			
Cornwall, passing the Long Sault rapids.....		11 1-2	7	48	200	55	9	100	150	865,372	1,665,663	
Beauharnois, do. Coteau, Cedars and Cascades road.....		11 1-4	9	82 1-2	200	45	9	80	120	1,190,087	275,426	
Lachine, do. Lachine rapids.....		8 1-2	5	44 1-2	200	45	9	80	120	old canal	400,000	29,288
Elargement of do.....										1,001,333	61,439	
Total from lake Erie to the sea.....		12	57	525								
Chambly.....		66	9	74	120	24	6	36	60	200,000	440,000	1,409

COAL COMPANIES.		Length in miles.	Cost.	1843.		Div. per cent.	1844.		Div. per cent.	Value of stock.	REMARKS.
		R. rd. Canals.		Gross.	Nett.		Gross.	Nett.			
	Delaware and Hudson.....	16	108	2,500,000	930,203	196,702	10			130	
	Lehigh.....	20	72	6,000,000						31	

AMERICAN RAILROADS.													SALES.	
Me.	RAILROADS.	Length in miles.	Cost.	Loans and debts.	Number of shares.	Paid on hare	1843.		Div. per cent.	1844.		Div. per cent.	Previ- ous prices	Week ending July 16. Shares. Price
							Gross.	Nett.		Gross.	Nett.			
1	Portland, Saco and Portsmouth.	50	1,200,000				89,997	47,166	7	131,404	62,172	6	103½	5 103½
2	Concord.	35	750,000									12	65	
3	Boston and Maine.	56	1,485,461				178,745	68,499	6	233,101	86,401	6½	117	8 114½
4	Boston and Maine extension.	17 1-4	455,703	unfin.										
5	Boston and Lowell.	26	1,863,746				277,315	144,000	8	316,909	147,615	8	120	4 11½
6	Boston and Providence.	41	1,886,135	none.	18,600	100	233,388	110,823	6	282,701	156,109	6	114	
7	Boston and Worcester.	44	2,914,078				40,141	162,000	6	428,437	195,163	7½	120½	54 1
8	Berkshire.	21	250,000	not stated				17,500	7	17,737				
9	Charlestown branch.		280,260						13	34,654	13,971	5½	112½	50 80
10	Eastern.	54	2,388,631				279,563	140,595	6	337,238	227,920	8	113½	275 108½
11	Fitchburg.	50	1,150,000	just op'n'd						42,759	26,835		124	
12	Nashua and Lowell.	14 1-2	380,000				84,079		8	94,588	34,944	10	123	
13	New Bedford and Taunton.	20	430,962				50,671	24,000	6	64,998	24,000	6		
14	Northampton and Springfield.		172,883	unfin.										
15	Norwich and Worcester.	59	2,170,366	900,000	16,535	100	162,336	24,871		230,674	99,464	3	71½	3,355 71½
16	Old Colony.		87,820	unfin.									106	
17	Stoughton branch.	4	63,075	unfin.										
18	Taunton branch.	11	250,000					20,000	8	96,687	20,000	8	118	
19	Vermont and Massachusetts.													
20	West Stockbridge.	3	41,516	200		100								
21	Western, (117 miles in Mass.)	156	7,686,202	4,686,202	30,000		573,882	284,432		753,753	439,679	4	101	20 102½
22	Worcester branch to Milbury.		8,431	506										
23	Housatonic, (10 months.)	74	1,244,123							150,000			31	
24	Hartford and New Haven.	38	1,100,000	100,000	10,000	100						6	95	25 93
25	Hartford and Springfield.	25 1-2	600,000	400,000	2,000	100								
26	Stonington, (year ending 1st Sept.)	48	2,600,000	650,000	13,000	100	113,889			154,724	79,845		29	625 28½
27	Attica and Buffalo.	31	336,211				45,896	7,522		73,248	48,033	0	109½	10 109
28	Auburn and Rochester.	78	1,796,342	200,000	14,000	100	189,693	112,000		237,667	152,007	6	116	
29	Auburn and Syracuse.	26	766,657			133½	86,291	27,334		96,738	52,544	6	100	
30	Buffalo and Niagara.	22	200,000		1,500								29	1,325 30
31	Erie, (446 miles.)		5,000,000											
32	Erie, opened.	53						48,000		126,020	59,075			
33	Harlem.	26	1,206,231							140,685	62,399		69½	170 69½
34	Hudson and Berkshire.	31	575,613		50					35,029	1,789	0	11½	
35	Long Island.	96	1,610,221	392,340	29,846					153,456	58,996	0	71	7,380 68½
36	Mohawk and Hudson.	17	1,317,893	400,000	10,000	100	69,948	58,780		79,804	45,763	0	58½	
37	Saratoga and Schenectady.	22	303,658				42,242	3,000	1	34,666	8,455	0		
38	Schenectady and Troy.	20 1-2	640,800				28,043			32,646	6,365	0		
39	Syracuse and Utica.	53	1,115,897	none.	16,000	62½	163,701	72,000		192,061	120,992	8	117	
40	Tonnawanda.	43	727,332				76,227			114,177	75,865	5		
41	Troy and Greenbush.	6	180,000											
42	Troy and Saratoga.	25	475,801				44,325	21,000		38,502	9,971	2½		
43	Utica and Schenectady.	78	2,168,165	none.	20,000	100	277,164	180,000	9	331,932	199,094	8	132	20 132
44	Camden and Amboy.	61	3,200,000				682,832	383,880		784,191	404,956		112	
45	Elizabethtown and Somerville.	26	500,000											
46	New Jersey.	34	2,000,000										95	100 95½
47	Paterson.	16	500,000									6	90	1,225 88½
48	Beaver Meadow.	26	1,000,000											
49	Cumberland Valley.	46	1,250,000										30	
50	Harrisburg and Lancaster.	36	860,000											
51	Hazleton branch.	10	120,000											
52	Little Schuylkill.	29	900,000											
53	Blossburg and Corning.	40	600,000											
54	Mauch Chunk.	9	100,000											
55	Minehill and Schuylkill Haven.	18	315,000						12				80	
56	Norristown.	20	800,000										64	
57	Philadelphia and Trenton.	30	400,000										104	
58	Pottsville and Danville.	29 1-2	1,500,000											
59	Reading.	94	9,457,570	7,447,570	40,200	50				597,613	343,511		58	2,330 57
60	Schuylkill valley.	10	1,000,000											
61	Williamsport and Elmira.	25	400,000				20,000							
62	Philadelphia and Baltimore.	93	4,400,000				43,043	200,000			210,000		151	11,831 151
63	Frenchtown.	16	600,000											
64	Baltimore and Ohio, (1st Oct.)	188	7,623,600				575,235	279,402		658,620	346,946		49½	37 49½
65	Baltimore and Susquehanna.	58	3,000,000										21	
66	Baltimore and Washington.	38	1,800,000				177,227	71,691		212,129	104,529		84	
67	Greensville and Roanoke.	18	284,433	37,544	2,000	100				25,368	6,074		28	
68	Petersburg.	63	969,880	63,000	7,690	100				122,871	72,898	3	77	
69	Portsmouth and Roanoke.	78 1-2	1,454,171											
70	Richmond, Fredericksburg and Potomac.	76	800,000							185,243	85,688	6		
71	Richmond and Petersburg.	22 1-2	700,000											
72	Winchester and Potomac.	32	500,000											
73	Raleigh and Gaston.	84 1-2	1,360,000											
74	Wilmington and Raleigh.	161	1,800,000											
75	South Carolina.	136			34,410	75				532,871	140,196	5		
76	Columbia.	66	5,671,452				201,464	77,456		328,425	180,704			
77	Central.	190	2,581,723				227,532	93,190						
78	Georgia.	147 1-2	2,650,000				248,026	158,207		248,096	147,523			
79	Montgomery and West Point.	89	500,000	170,000		100				35,000	15,000			
80	Lexington and Ohio.	40	450,000											
81	Little Miami.	40	400,000											
82	Mad river.	40	152,000											
83	Madison and Indianapolis.	56	212,000											
84	Champlain and St. Lawrence.	15						12,000		58,000	24,000		110	

Correspondents will oblige us by sending in their communications by Monday morning at latest.

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AMERICAN RAILROAD JOURNAL.

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Thursday, July 31, 1845.

THE COAL TRADE—SCHUYLKILL VALLEY.

The shipments by railroad are 25,522 tons, and by canal 6,063 02, making 32,495 02 tons for the week.

BY RAILROAD.

From Pottsville and Port Carbon—total.....	171,729
From Schuylkill Haven—total.....	193,511
From Port Clinton—total.....	6,436

Total by railroad.....371,676

BY CANAL.

From Pottsville and Port Carbon—total.....	63,447
From Schuylkill Haven—total tons.....	17,446
From Port Clinton.....	23,014

Total by canal.....103,907

Total by railroad and canal.....475,595

LEHIGH COAL TRADE.

Total shipments from Mauch Chunk. Lehigh coal and navigation co.	
Summit mines, -	88,365
Room run do., -	30,330
Beaver Meadow railroad and coal co.,	37,582
From Penn Haven—Hazleton coal co.,	30,727
From Rock Port—Buck Mountain coal co.,	9,456

196,359

WYOMING COAL TRADE—total.....70,577

PINE GROVE COAL TRADE—total.....33,649

MINEHILL AND SCHUYLKILL HAVEN RAILROAD—total tons.....210,446

MOUNT CARBON RAILROAD—total tons.....131,528

[Miners' Journal.]

New York and Erie and New York and Albany Railroads.

Next to the Croton water—if second even to that in importance to the people of this city—is the early completion of these two great railroads. We have not a doubt but that, if completed and put into successful operation, within five years their cost would be twice reimbursed to the people of New York—even if they merely paid the current expenses of management—in the expense of living, in improved health, arising from a greater supply of the necessities of life—such as pure milk, fresh vegetables, poultry, etc.; and last, though not least, in the increased value of real estate, which would not be less certainly, and probably more than ten per cent.—on its present assessed value of \$171,000,000—over and above what it would be if the roads are not built. It would therefore be true economy for the city to build these roads by a tax upon the property, divided into ten annual assessments, and then put the fare and freight at the lowest possible rates—merely paying current expenses, and accumulating a fund for re-building the road when required—as, by such a course, the artificial channels for business would be superior to the natural, and New York might then retain her relative position without

fear of competition. We say this might be done and true economy would be consulted thereby; yet we have no expectation that it will be done, as those who have the means to carry out such a course of measures do not, and will not, at present, see the correctness of this position; therefore we must rely upon individuals, upon the men of means, to construct them; and it is to the men of means—not of large, but also of small means—to those who feel at home in New York—not to those who feel, if they do not say, "What is Broadway or New York to me? I live in Paris;" but to those who live and have a pride in, and a regard for the people of, New York, that we desire to say—and especially in relation to the NEW YORK AND ERIE RAILROAD—let not the present liberal offer of the legislature pass unimproved. Such another may not again occur in an age, if this is neglected! To the owners of real estate, to the merchants, to the manufacturers, to the mechanics, carmen and business men of New York we say then, now do your duty, and aid in proportion to your means, in the completion of a work which, when done, will enable you to live better and cheaper, to enjoy better health and make more money, even if it never pays a penny of dividend. Yet that it will be a good investment when completed there cannot be a doubt; and as a proof that it will be so, compare its estimated cost and its resources for business with the following roads, both in this country and Europe, which are now in use and paying large and increasing dividends. We give their length, cost, cost per mile, and last year's dividend:

	Length. (Miles.)	Cost.	Cost per mile.	Divid'd, 1844. (Per ct.)
Portland and Saco.....	50	\$1,200,000	\$24,000	6
Concord and Nashua.....	35	750,000	21,428	12
Boston and Maine.....	56	1,485,461	26,526	6 1/2
Boston and Lowell.....	26	1,863,746	71,682	8
Boston and Providence.....	41	1,886,135	46,000	6
Boston and Worcester.....	44	1,914,078	43,500	7 1/2
Eastern.....	54	2,388,631	44,333	8
Nashua and Lowell.....	14 1/2	380,000	27,143	10
Auburn and Rochester.....	78	1,796,342	23,030	6
Auburn and Syracuse.....	26	766,765	29,489	6
Syracuse and Utica.....	53	1,115,897	21,054	8
Utica and Schenectady.....	78	2,168,165	27,797	8

So much for American railroads. Now look at a few of the English roads, which have generally cost more pounds sterling than ours have dollars per mile; yet they pay larger dividends, simply because they have business at both ends, and along their line, as the New York and Erie will soon have—especially at its extremes; and as for its way business it will exceed any other in the country, in proportion to its greater length and the number and extent of its branches, which will certainly exceed that of the main line! It is the construction of branches and the connection with other roads which adds immensely to the business of railroads, and ensures their prosperity. Such is found to be the case in England—where railroads are most profitable—as will be seen in the annexed list:

	Length. (Miles.)	Cost.	Cost per mile.	Divid'd, 1844. (Per ct.)
Dublin and Kingston.....	6 1/2	£349,736	£58,289	9
Grand Junction.....	104	2,503,671	24,073	10
Great Western.....	221 1/2	7,455,689	33,584	8
Liverpool and Manchester.....	32	1,785,000	55,781	10
London and Birmingham.....	112 1/2	6,614,995	58,540	10
London and South-western.....	92 1/2	2,604,405	28,004	10
Paris and Orleans.....	82	1,978,415	24,127	8
Paris and Rouen.....	84	1,440,000	17,145	8

With such results during the first few years of

the working of the system, when the machinery is comparatively new, and its business has to be diverted from its ordinary channels, what may we not anticipate from it when the main lines shall have been extended, the numerous branches completed and the business have found its way to them, as a large proportion of it will wherever they are in operation? With New York at one end, and the fertile region of country with its numerous railroads and canals, bordering upon the great lakes at the other, and its hundreds of miles of lateral roads diverging from it along its line, as there surely will be, where can be a better investment of capital than in this important work under the law of the last legislature?

Liverpool and London.

Two hundred and twenty miles in five hours, or 44 miles an hour, including stops! and at about 5 cents a mile in first class cars; and proportionably less, or about 3 and 2 cents in the second or third class cars. This is truly going ahead, and, as Mr. Willis says in his letter, speaking of his journey from Liverpool to London, "this travelling at forty odd miles the hour gives one's eyes hardly time to know a tree from a cow, but here and there I got a distant view in crossing a valley, and recognized the lovely rural beauty of England, the first impression of which lasts one, like an enchanted memory, thro' life. Notwithstanding the great speed, the cars ran so evenly on their admirable rails, that there was no jar to prevent one's sleeping or being comfortable, and I awoke from a very pleasant dream to find myself in London." In speaking of the pavements of London, he says "the paving of London is really most admirable. Vast city as it is, the streets are as smooth as a floor all over it, and to ride is indeed a luxury. The break-neck, hat-jamming and dislocating jolts of Broadway must seem to English judgment an inexcusable stain on our public spirit. And apropos of paving—the wooden pavement seems to be entirely out of favor. Regent street is laid in wooden blocks, and in wet weather (and it rains here some part of every day) it is so slippery that an omnibus which has been stopped in going up the street is with difficulty started again. The horses almost always come to their knees, though the ascent is very slight, and the falls of cart and carriage horses are occurring continually. Nothing seems to 'do' like the McAdam pavement, and wherever you find it in London, you find it in as perfect order as the floor of a bowling alley. I see that all heavy vehicles, by the way, are compelled to have very broad wheels, and they rather improve the road than spoil it. A law to the same effect should be passed in New York, if it ever has a pavement worth preserving." The cost of keeping the pavements of Broadway, even in the condition we usually find them for fifteen years would make them equal to those of London and keep them so; and so of other streets. But any person with one eye only, who witnesses the manner in which the pavements are put down, or repairs are made, will see that they cannot be permanent, and must therefore be a constant source of annoyance and expense.

Branch of the Erie railroad.

The Attica and Hornellsville railroad company, says the Ithaca Chronicle, incorporated at the last session of the legislature, has organized, by appointing Geo. Palmer of Buffalo, president, and J. G. Hoyt of Attica, secretary. The books for subscription to the stock are to be opened at Buffalo, Attica and Hornellsville, on the 10th of September next.

The following article, from the Boston Courier, of July 15th, contains some valuable facts in relation to the wear of the 56 lbs. iron of the second track of the Lowell road.

It appears from these facts that the cost of renewing the iron of this road is about equal to *one cent per ton of freight per mile*—estimating the passengers and baggage as so much freight.

As the destruction of iron, according to this experience, greatly exceeds the usual estimate of the value of that item, it would be well to call the attention of engineers to this important subject, with a view to providing some adequate remedy. J.

Wear of Railroad Iron.

There has been a great deal of discussion and speculation during the last two years, as to the probable duration of railroad iron when exposed to a heavy traffic; and there are few subjects on which the opinions of practical men have differed more.

We have, however, at last, the means of forming a very safe estimate of the durability of a 56 pounds to the yard edge rail, when well laid, on an even and well-adjusted track.

The first ten miles of the second track of the Lowell road was first brought into use in 1838, after the "fish-belly rail" had been found inadequate. The new rail was of the H pattern—the form now most generally approved.

The following table shows the number of tons which passed over the road, in each year, from 1838, when this rail was first used, until July, 1845, when the company commenced making extensive repairs:—

In 1838 about	60,000 tons.
1839	70,000 "
1840	73,000 "
1841	86,000 "
1842	91,000 "
1843	115,000 "
1844	150,000 "
1845 (to July)	75,000 "
Total freight	720,000 "

In addition to this quantity, there has been transported, annually, about 16,000 tons of passengers and baggage, or in seven and a half years 120,000 "

Which makes the aggregate tonnage about 840,000 tons.

One half of this quantity only has passed over the second track, which, up to this time, therefore, has sustained 420,000 tons. The question is now, what effect has this tonnage produced? Is the rail visibly injured by it?

The company have relieved us of the necessity of all speculation on this point, by taking up several stretches of this rail in 1844; and they are now making still further changes—one about a mile long, near the 3 mile stone, and the other about half a mile, near South-Woburn. They will be compelled to make additional renewals this year, and probably to change the iron on the whole of this 10 miles in the course of next year. The durability of this rail may, therefore, be set down at 500,000 tons. The lowest estimate we have ever seen of the power of a good edge rail, is 1,000,000 tons.

In 1841 and 1842, the Lowell company

took up 26 miles of the "fish-belly" rail, and laid down a new iron of about 56 pounds per yard; some portion of it was 60 pounds, and that which they are now using is 63 lbs. iron per yard. This change of iron cost \$121,559, after deducting the proceeds of the old iron, or about \$4700 per mile.

The new iron was heavier than the old, which, of course, increased the cost of making the change; but, on the other hand, the new iron was purchased while railroad iron was admitted free of duty, which reduced the cost.

If we make the proper allowance for these two circumstances, we will find that the cost of taking up one track of 56 pounds iron, and replacing it by a new track of the same weight, is very nearly \$5000 per mile.

If we then divide this sum by 500,000 tons, the amount of trade which shall have destroyed it, we shall obtain *one cent per ton per mile* for the value of the wear of iron on this road. This is a larger result than we should have looked for; but as the company receive more than five cents per mile per ton, for all the freight they carry, they can afford to renew their iron and still make reasonable profits.

Petersburg Railroad.

We give place to the following communication, and make the corrections desired, as a matter of justice, and also as a matter of business. We aim, and have made considerable effort, to obtain from each company, or from authentic sources, correct statements of the costs, etc., of their road, but have in many instances, as our table shows, been unable to obtain anything approximating to a full statement, and have, therefore, left them blank—while in some others we have adopted statements which prove to be erroneous. The best remedy is for each company to furnish full and accurate reports, and thus enable us to place them in their proper position:—

PETERSBURG, July 21, 1845.

Editor Railroad Journal—

Sir:—A friend has just called my attention to an article in your paper of the 26th ult., a part of which I extract, as it is short:

"While I think of it I will correct the statement in relation to the road over which I preside, and two additional ones in your list.

"The gross income (Richmond, Fredericksburg, and Potomac railroad) for the fiscal year, ending 1st of April last, was..... \$185,243

"Its net income was..... 85,688

"Its cost..... 1,454,171

"Its dividends 6 per cent.

"The Petersburg and Roanoke railroad cost about \$950,000, instead of \$260,000, as stated, and pays 3 per cent."

I do not suppose that the writer of the above intended to make a comparison between the two roads unfavorable to the latter; but the impression which the statement must have made on the minds of your readers was, that the first was twice as valuable an investment as the last, and that the last only "pays 3 per cent."

Let us see how far this impression is sustained by a more detailed statement in regard to the Petersburg road—"the road over which I preside."

The Petersburg (not Petersburg and Roanoke) railroad was finished in 1833. Up to 1842 it had paid in dividends 54 per cent.

In 1842 and 1843 the company rebuilt the road with 15 miles of edge rails, and the balance with $\frac{3}{4}$ by $2\frac{1}{2}$ inch plate iron, and constructed 3 miles of new road and an expensive bridge across Roanoke river. In three years no dividend was paid, the profits having been absorbed by the new work and the payment of debts.

The receipts of transportation for the 12 months ending Feb. 1st, 1845, were..... \$123,670 81
Expenses of all kinds, except interest, was..... \$49,970 33
Interest account..... 4,745 98— 58,718 31

Net income..... \$64,952 50
Out of this income was paid—
Of the debts due by the company.... \$41,882 50
And a dividend of 3 per cent..... 23,070 00

Out of the profits of the last six months we have paid about \$32,000 of our debt and a dividend of 2 per cent.

This will give your readers a better idea of the value of our road than the short statement that "it pays 3 per cent."

Your informant, in sending you the statement about our road, omitted, no doubt accidentally, to give all that is necessary to fill up the blanks in your list, some of which are of importance in ascertaining the value of the investment. This I will give you.

The road is 63 miles, (instead of 60, as in your list.)

The number of shares 7,690, of \$100 each, all paid.

The amount of loans and debts Feb. 1st, 1845, was \$94,592. This was reduced to less than \$63,000 July 1st.

Last prices of stock \$75 to \$77.

I have charge also of the Greenville and Roanoke railroad, the cost of which is greatly overrated in your report.

This road is 18 miles long. It cost \$284,433. Number of shares 2000, of \$100 each, all paid. Debt, 1st of May last, \$37,544. This road was finished in 1837. Up to May last the company had paid \$46,858 of their debt out of the profits of transportation. No dividend has yet been made.—Last sales of stocks 25 to 28.

The receipts for the fiscal year, ending May 1st last, were..... \$25,368 94
Expenses of all kinds.... \$16,620 62
Interest account..... 2,673 46—\$19,294 08

Net income—applied to the reduction of debt..... } \$6,074 86

I remain respectfully yours,
H. D. BIRD.

PITTSBURGH GAZETTE AND ADVERTISER.

We have just received one number—and look for more—of this excellent paper, published daily, tri-weekly, and weekly, by Messrs. WHITE & HARRIS, Pittsburg, Pa. It is a very long time since we have seen a number of it, though it was formerly a regular visitor. It is a well conducted and, we judge from its advertising, a well sustained business paper—with its marine list, commercial record, etc., which gives it much the appearance of our city papers—and will be found, we doubt not, a valuable medium of

advertising for our city merchants and business men who desire to extend business in the west.

We copy from the *Albany Argus* the following exceedingly appropriate, and well written, article on the subject of railroads. It shows that "truth is mighty and will prevail."

The remark that "experience has conclusively proved that the opening of a railway invariably doubles business, and in many cases trebles, and even quintuples it," is certainly true—and a truth which we have long labored to establish—and we are much pleased to learn that the *Argus*, one of the most influential papers in the union, has hoisted the railroad flag—even at this late period. It is not yet too late for it to accomplish much in aid of the cause:—

The railway spirit—Its present character—Progress of American railroads.

The feeling in favor of railways is rising in every state in the union. Almost every paper we open contains a call for a railroad meeting or elaborate reports of trade and tonnage of particular routes, in order to determine the propriety of an immediate prosecution. The space that these proceedings occupy in the local papers of all parties is the best evidence of the depth and pervading intensity of public opinion. Though it may be thought that there is madness in the high-wrought feeling on this question, yet we may say there is "method in this madness." Canals are not spoken of, because business men know that any new work of internal improvement to be profitable must carry not only freight but passengers. If they can so construct a railroad as to do cheaply both kinds of business, it is obvious that many routes (now unoccupied) would support a railway where a canal could not pay its repairs. Time, and speed, and certainty, are becoming so essential an ingredient in freight, as well as passenger travelling, that the community will give the preference to railways. Canals may carry cheaper, but railroads are quicker, and what is of not less importance, can be used every month of the year, while canals are closed at least five months, or nearly half of the year, and so long are useless to the producer or manufacturer.

There is one feature which now marks the railway efforts, not only in New England and New York, but in the western, middle, and southern states, and that is, the exact amount of tonnage and the number of passengers over any proposed route are first ascertained, before the enterprise will move. Fortunately, this important examination is undertaken, not by mere speculators, but by sound business men, of tried integrity, in whose judgment a just confidence is reposed by those who are invited to invest. When it is clear that the present business would pay a small dividend (say 3 or 4 per cent.) on the whole cost of the road and its equipments, then safety is adhered to, and though the direct return may not be large, the stockholders are sure of a small yearly income from their investment. This reliance upon present and existing business is all that is

needed to free such railway enterprises from the charge of speculating upon the credulity of the public.

In this connection we might very properly state, that experience has conclusively proved that the opening of a railway invariably doubles business. In many cases its trebles and even quintuples business. This reliance for an increase of business may be depended upon with certainty.

Where the present and existing business on a proposed route will pay a small dividend, the increase of business on the opening of a railway may be sufficient to meet all contingencies in their construction and other expenses, the exact amount of which it is at first impossible to calculate. This certain augmentation of transportation insures a dividend beyond a peradventure.

There need be but little fear that the railroad spirit will run into a dangerous mania. The currency, which in truth is the great lever of all wild speculations in this country, is fortunately on a sounder basis than it was in '35 and '36. This is a safeguard of the highest importance. When individuals have to raise the money without borrowing, or for which they have paid an actual equivalent, they will feel no disposition to waste it in railroads. They may invest it if they have reliable data which show a reasonable return, but the biting experience of '35 and '36 is not forgotten, even by the reckless and credulous. The most plausible statements are now received with distrust.

We have also marked that even in the general urgency to push forward railways we hear no more of borrowing abroad. No agents, as in '35 and '36, are traversing Europe to negotiate loans at a low rate of interest, for the purpose of forcing these works through. The revulsions of the past are not forgotten. Most fortunately those who are so earnest about railways rely entirely upon American capital—deeming it sounder policy to wait awhile, until our capitalist can accumulate sufficient means, rather than hurry these railroads through, upon the impulse of foreign capital. So long as such caution tempers the present mania we fear not the rising spirit. On the contrary, much good may come therefrom. The impulse which leads to the linking of the iron bands of brotherhood and union is a noble one. We trust that it may be rightly directed. It can be productive of the highest good to man, while it may give a steady and healthy direction to the capital of our country—inviting the hand of labor by an ample reward while it repays the munificent enterprise of capitalists.

Neither is it to be overlooked, that though railroads are one of the strongest and most enduring arms of peace, they immeasurably strengthen the military efficiency of our country and add to its national greatness and power in the eyes of the world.

The railway is becoming a marked element in the progress of civilization throughout the world. The past movements of the United States in their construction have so deeply excited the interest of Europe that a

special agent from the French government has visited the principal railroads of fifteen countries. In the course of the last year and years we have constructed five thousand miles of railroads. But we are now in the dawning of the system. During the next fifteen years may we not anticipate a progress accelerated by the past momentum? Who will not live to see that five thousand augmented to fifteen, and perhaps twenty-five thousand miles of railways? The vast extent and boundless fertility of our country and the irrepressible character of our people afford an unerring indication of what they will accomplish when their energies are directed upon enterprises worthy of their name and the nation, and which so peculiarly accord with the progressive spirit of our institutions.

Railway Accidents.

The recent accidents on the Great Western, or London and Bristol railway, is causing no little talk. We copy the following account of it from the *Railway Express*, of 20th of June, and then give the remarks of *Herapath's Magazine*, of the 21st:—

Accident on the Great Western Railway.

On Tuesday morning a serious accident took place on the Great Western railway, near the Langley station, about two miles and a half on the London side of Slough.

The express train left Paddington for Exeter on Tuesday morning, at three-quarters past nine o'clock, the whole distance (194 miles,) since this fast train has been established, being performed in four hours and a half. The train consisted of the engine and tender, a luggage van, two second class and two first class carriages. Upon the arrival of the train at a point of the railway called Dog-kennel bridge the passengers experienced an extraordinary undulatory sort of motion, and shortly afterwards the gravel and dust between the lines of rails were thrown up in clouds, into both the first and second class carriages, to the great alarm and dismay of the passengers; and, before more than a few seconds had elapsed, the two first class and one of the second class carriages were thrown with fearful violence off the line down an embankment twelve or fifteen feet in depth, with a most alarming and dreadful crash. The first of the two second class carriages was dragged completely across the four lines of rails, which having become disconnected from the luggage van, was there left in that position, while the engine, with its tender, proceeded onwards.

The whole of the carriages were nearly filled with passengers, there being upwards of one hundred and thirty second class, and between fifty and sixty first class, passengers. The only carriage having but four wheels was the luggage van. The weights of the respective vehicles, exclusive of luggage and passengers, were as follows:—The engine, 16 tons; tender, 10 tons; luggage van, 3 tons 10 cwt.; second class carriages, each 7 tons; and the first class carriages, each 7 tons 10 cwt.

Among those who were in the carriages, officially connected with the railway, were

Mr. Brunel, the engineer in chief; Mr. Jones, in Mr. Brunel's establishment; and Mr. Seymour Clarke, the chief superintendent of the locomotive department, accompanied by Mrs. Clarke. All these parties providentially escaped with but trifling bruises.

Upward of forty persons, who were more or less injured, were taken to the Royal Hotel, at the Slough station. Among those were Sir Richard Vyvyan; Dr. Strong, of Rose-cottage, Hereford; the Rev. Collingwood Hughes, of Avishays-house, near Chard, and the family governess; Mr. Bristow, of Haverfordwest; and Mr. Colin Robertson, late of Honiton. None of these had sustained any serious or permanent injury.

General Pasley, the government inspector of railways, accompanied by Mr. Seymour Clarke, visited the scene of the accident on Wednesday. No defects were discovered in the line of rails to have caused the accident. Mr. S. Clark's opinion of the cause of the accident is as follows:—"The luggage van, which was a four-wheeled vehicle, and the lightest in the train, was, from some cause which cannot at present be ascertained, thrown off the line, the engine and the other carriages remaining in their proper position on the rails. It proceeded thus until it came to the cast iron girders or troughs of a bridge thrown over a road leading from Langley to Iver, when it seems that it struck one of these girders, which threw it off the timbers into the ballast of the line, pulling with it, and against the iron girders, the remainder of the train."

To the extraordinary strength of both the first and second class carriages, which, though very much damaged and shattered, stood the shock so as to enable the passengers to move freely in them, may be attributed the preservation of the lives of the numerous passengers, which were placed in the most imminent peril. The galvanic telegraph between Slough and Paddington, which had been damaged, and rendered for the time utterly useless, by the wires and posts having been severed and broken, was repaired during the night.

[From Herapath's Railway Magazine of June 21.]

Accident on the Great Western Railway.

Every one must deplore the unfortunate accident which happened to the Great Western on Tuesday, not merely that it was an accident, but that it happened to a train which reflects on the enterprising spirit of the company the highest credit. Accidents all companies are liable to, but when they fall on actions which have departed from the usual cause for public accommodation and good, we cannot help feeling a more than ordinary sympathy. The Great Western fast train had set an example so bright and shining that other companies' performances, like candles in the presence of the sun, appeared dark and insignificant. If, therefore, there is any act of the Great Western more than another to which we wisened unmixed success, it was this, and we felt overpowered with vexation when we heard of their misfortune, of

which an account is given in another part of our Journal.

Lamentable, however, as the accident is, we have learned one lesson by it, which we hope will not be lost on Mr. Brunel, the engineer, who was reported, but we learn not truly, to have been present, but had the good fortune to escape uninjured. It is this:—The cause of the accident was owing to the luggage van—which Mr. Seymour Clarke says was "*the lightest in the train*"—hopping off the rails. Our readers will remember that some twelve months ago Mr. Brunel, in some evidence he gave on the atmospheric railway, asserted that by means of the atmospheric railway they would be able to have carriages of a much lighter construction and go at a much higher speed, which we then commented on as unsound reasoning. We maintained that the weight of the carriages was one great security at high velocities against their leaving the rails, and that to diminish their weight would be to increase the public danger. An accident happened on one of the railways, shortly after, confirmatory of what we said; yet in spite of this practical fact—palpable even to a child—Mr. Brunel maintains his notions, and advances as a merit of the atmospheric plan that it will save dead weight and permit us to have carriages of a lighter description. Here, however, is a fact on his own railway which his own sub has described, that the cause of the accident was the lightest vehicle by one-half of seven in the train—namely, the luggage van jumping off the rails. The engine is set down at 10 tons, which we suspect are several tons too little, the tender at 10, two first class carriages each at 7½ tons, and two second class carriages each at 7 tons, while the luggage van is only 3½ tons. Why the luggage van was so disproportionably light, we know not. If it was made so conformably to Mr. Brunel's notions that the weight of a vehicle has nothing to do with security on the rails, here is at once a practical proof of their fallacy; for had it not been for the high speed, combined with the superior lightness of this vehicle, the chances are six to one against its leaving the rails. These odds are much increased, seeing that it was not the first but the third vehicle of the train.

Though we cannot but feel gratified at this experimental tribute to our correctness, we are sorry it should be at the expense of the company's property and the safety of the passengers. We do, however, hope, as it is never too late to learn, that the company, if Mr. Brunel should not, will be wise enough to see the impropriety and danger of continuing to use these very light vehicles with such high speeds.

We also hope that the subject will not escape the board of trade, at whose suggestions luggage vans were placed between the tender and the passenger carriages. No luggage van can at high speeds be lighter than one of the carriages without compromising the safety of the passengers.

[The following observations on this subject from a gentleman of considerable expe-

rience in railways, open up new ground, and will therefore be read with attention.]

MR. EDITOR:—It is to be hoped that a full explanation of the cause of the late accident to the express train of the Great Western company will be afforded to the public.

To those acquainted with the working of railways, it is evident that the cause originated either in neglect or was the result of accident which no human prudence could prevent.

If the facts as stated in the daily press be correct, I should fear that the luggage van next to the tender had not been properly attached to it, can hardly be supposed that the coupling and safety chains should both have given way at the same moment.

The sudden separation of the carriages of a train proceeding at a high velocity on any line would have produced a similar result, but on a line like the Great Western, the rails of which are laid on continuous or longitudinal bearers, the possibility of a similar accident is greater, not from the extreme breadth of its gauge, but from the peculiar manner in which the rails are laid.

It is admitted by all persons conversant with railways that the natural tendency of rails is to collapse, and in order to guard against this tendency, which is caused by the action of the flanch of the wheels on the inner side of each rail, every precaution is taken by offering the greatest resistance to the tendency to collapse.

In the case of continuous or longitudinal bearers, the framing to counteract lateral pressure, is placed in juxtaposition to the bearers, whereas in the cross sleeper road the rail itself is acted upon by the chair in which it is seated. In the one case the resistance is direct or immediate, but in the former it is remote or contingent.

Any one who has noticed the ordinary repair of a line, the rails of which are laid on blocks, will have seen that the inner side of the block is imbedded deeper in the ballasting than the other side, and that in lines with continuous or longitudinal bearers, the inner side of the bearer requires much more packing than the outer. This adjustment is to insure a more perfect gauge of the rails. The departure from the true gauge causes the carriages to roll or to assume that oscillating motion which is commonly termed "wabbling," and in proportion to its increase, the chance of overturning is multiplied.

In cross sleeper roads, the action of the wheels of the engine upon the rails is direct, the grip or adhesion of the driving wheels acting on both rails at the same time with an equal and proper bearing, the rails being seated in chairs placed in line with each other, whereas in a continuous or longitudinal bearer the action of the driving wheels is more or less oblique from the absence of uniformity in the fixing or seating of the rails with the same precision as the chair insures.

I have no doubt that the cause of the late accident might have been accelerated by the lightness of the luggage van, and by its being (as I presume it was from the circum-

stance of its being a four wheeled carriage) of a different length to the other carriages in the train; at all events, I trust for the sake of the public and the company that the result of the inquiry will be made known.

London, June 19, 1845.

A TRAVELLER BY RAILWAYS.

This is an age prolific of new plans, and there must, of course, be some good ones among them. Possibly "*Prosser's Railway Guide Wheels*" are among the good ones; therefore we lay the following article, from Herapath, before our readers, and ask their views in return:

Prosser's Railway Guide Wheels.

On Wednesday last the merits of this plan were publicly tried at Wimbledon-common, where a length of about two miles of railway was laid down for the purpose. The line was not composed entirely of wooden rails, but partly of iron, to show the power of easy transition from one to the other of which the plan is capable; and this we may observe was proved beyond doubt. The shape of the line is not much unlike that of a ladle, being for some distance a straight length, at one end of which it branches off with short curves into two lines of railway, taking opposite directions to form a circle, so that the train ran down the straight line, round the circle, and returned to the place whence it set out up the straight portion. The radius of the curves (contained in the circle) is 10 chains, and the heaviest gradient on the line 1 in 50; there were other gradients of different inclination, varying from 1 in 80, 1 in 100, to 1 in 200, etc. Our readers are aware of the principle and plan of Mr. Prosser's invention, since we have had occasion to call their attention to it on former occasions; it is simply a contrivance to dispense with the ordinary flange, by employing small wheels, working against the rails obliquely at angle of 45 degrees, to do its office, by which it is professed friction is reduced, and greater safety obtained—the rubbing of the flange being obviated by the rolling of these wheels, which at the same time obtain a greater purchase on the rails, and in case of accident to the wheels or axles (unfortunately the principal cause of our and our neighbor's worst accidents, particularly that frightful one on the Versailles railway) they supply the place of the wheels themselves. The plan is equally adaptable to iron or wood, and in using the latter a saving of £2,500 to £3,000 per mile is alleged to be effected, the best guarantee for which is the contract entered into by one of the first firms of contractors to make it on the Guilford Junction line, which unfortunately perhaps for the inventor, though the large sum of £20,000 was given as compensation, was not completed, owing to the purchase of it by the South West company, to form part of an extensive scheme in connection with their railway. Had that line been made, we should have had by this time one of the best proofs we could desire of the merits of the invention, namely, the practical working of it. It is, however, to be adopted by the Waterford and Kilkenny railway; being but of so

simple contrivance, and the effect so evident, we need scarcely a practical illustration to show us the result. Although circumstances were altogether unfavorable to a trial of the plan, we must confess to our minds it was more than ever convincing of the practical utility of the plan. A suitable engine not being procurable in less time than a year and a half, the company formed to carry out the system was obliged to resort to one of Rennie's old lathe engines. This clumsy affair is more than doubly as ponderous as it should be, weighing about 11 tons, (13 with water,) the power of which does not reach 30 horses, whereas a suitable one would not have exceeded six tons. It was without springs. The rails just laid down, soused by a heavy rain, were in a most wretched state of level, such, that we believe no ordinary train, we mean constructed in the common mode, could have traversed at scarcely a walking speed, much less at that which the model obtained on Wednesday. At the left hand sharp curve, turning into the circle, where the gradient was as heavy as 1 in 100, the worst portion of the rails occurred; yet the engine and train ran up this incline, and worked the curve with the undiminished speed of 20 to 25 miles an hour. That was a pretty good test of the capabilities of the system. There was no more jolting in performing this than in running over less objectionable portions. We may remark that this "jolting," caused in a great measure by the want of springs, was apparently by no means pleasant to some of the parties invited to the experiment, who expected to have an easy ride; and, further, we have no doubt that it somewhat effected their minds as well as their digestions, in estimating, or rather underestimating, the success of the trial. Sight seers are too apt to form opinions wholly from appearance and feeling, without making allowances for circumstances. For our part, we should prefer testing an invention under severe disadvantage to having it nicely cooked up for the occasion, since we are then enabled, though at some cost to agreeableness, to judge of its worth, if any its possesses. On the whole, we think the experiment was very satisfactory of the merits of Prosser's system.

Chesapeake and Ohio Canal.—We are highly gratified in being able to announce that at the adjourned meeting of the Chesapeake and Ohio canal company, held at Frederick city, on the 23d instant, the bonds required by the late law of Maryland, guaranteeing the transportation of 195,000 tons of tonnage per annum, for five years, were furnished for the whole amount. These bonds will be submitted without delay, for the approval of the Governor and the agents of the state, of which approval no doubt is entertained.

We also learn that the prospect of letting the unfinished portion of the canal, between dam No. 6 and Cumberland, to able and enterprising contractors, for the bonds of the company, is encouraging; and we trust that having succeeded, thus far, after many diffi-

culties and discouragements, the progress of this great work will now be onward and prosperous.

At the same meeting, James M. Coale, Esq. was unanimously re-elected president, and John P. Ingle, Frisby Tilghman, William Price, John O. Wharton, and Daniel Buckhurst, Esqrs, were re-elected directors, and Robert W. Bowie, Esq. was elected director to fill the vacancy occasioned by the death of Mr. Darne.

The Iron Trade of Staffordshire.—Notwithstanding the recent extraordinary reduction in the price of iron, the extensive works of Thomas Kinnersly, Esq., at Kidsgrove, continue in full activity, and we hear that the wealthy proprietor has commenced the erection of another powerful blast, and is expending a considerable sum in other improvements.—[*Staffordshire Mercury*.]

The Iron Trade of Wales.—There is a continued reaction in the price of iron. The Ynisedwyn and Ystalyfera iron co.'s have this week lowered their prices for castings £1 per ton. We apprehend the failure of a large speculative broker and dealer has operated prejudicially on the market; but, if the fear entertained rather generally that parliament will stop the progress of many of the railway bills for this session should prove groundless, we hope there will be sufficient demand for iron to prevent a return to the old rates of wages which we fear must otherwise take place.—[*Cambrian*.]

Decision of the House on the broad and narrow gauges.—The broad gauge came off victoriously by a large majority of 134—for it, 247; against, 113; majority, 134. The grounds on which this decision appears to have been governed was the determination of the House to support their committees. It seems to have been fully known in the morning what the result would be. Nevertheless the victory may be short lived.—[*Herapath's Journal*.]

TO RAILROAD COMPANIES AND MANUFACTURERS OF RAILROAD MACHINERY. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE, ja45 N. E. cor. 12th and Market sts., Philad., Pa.

FOR SALE, AT A SACRIFICE—A LOCOMOTIVE ENGINE, 4 wheels and Tender. Cylinders 10 in. dia., Stroke 16 in., Cylinders inside of smoke box. Weight of engine, with wood and water, about 9 tons. This engine and tender are new, and of the best materials and workmanship. If required, would be altered to a 6 wheeled engine.

Also, 1 20-horse High Pressure Steam Engine.

2 8-horse

1 Upright Hydraulic Press.

All of which will be sold low, on application to

T. W. & R. C. SMITH.

Founders and Machinists,
Alexandria, D. C.

May 13th

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, Agent.

Albany Iron and Nail Works, Troy, N. Y.
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Eting, Philadelphia; Wm. E. Coffin & Co., Boston.
ja45

TO IRON MANUFACTURERS. THE SUB-scribers, as Agents of Mr. George Crane, of Wales, having obtained a patent in the United States for his process of smelting Iron Ore with Anthracite coal, and holding an assignment of the patent obtained by the late Rev. F. W. Geissenhainer, are prepared to grant licenses for the manufacture of Iron according to Mr. Crane's principle.

A. & G. RALSTON & CO.,
No. 4 South Front st., Philadelphia, Pa.
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PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York, will be punctually attended to.

HENRY BURDEN, Agent.

Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand.
ja45

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.

TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved SPARK ARRESTER, recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger and freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

E. A. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendent Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendent Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, or to Messrs. Baldwin & Whitney, of this city, will be promptly executed.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

••• The letters in the figures refer to the article given in the Journal of June, 1844.
ja45

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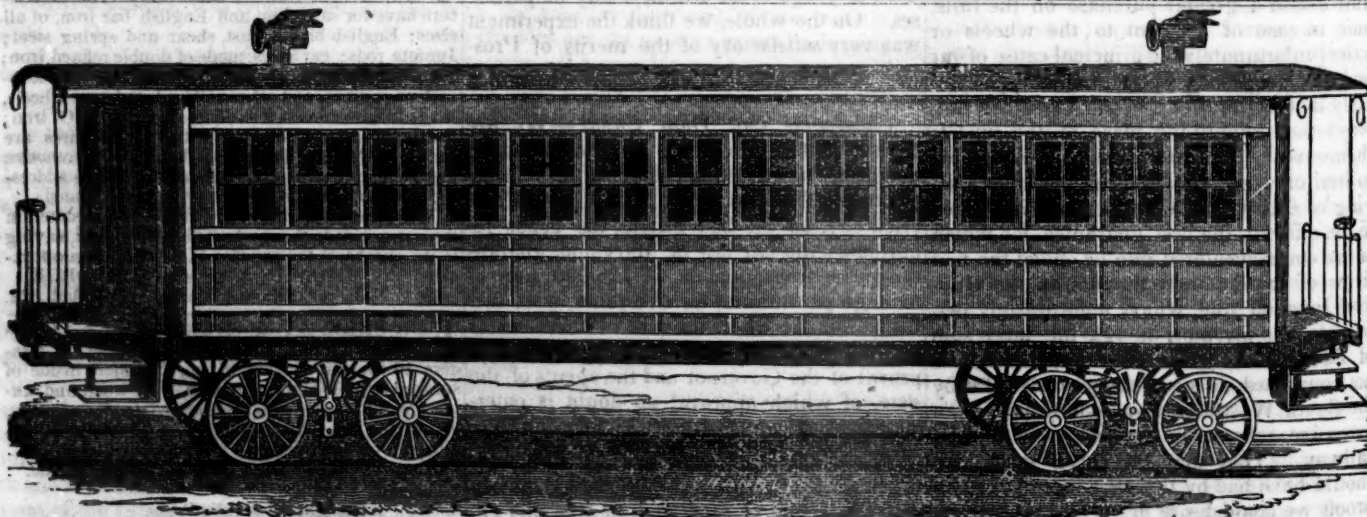
Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 1 1/2 to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

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REFERENCES.

Boston, { Col. James F. Baldwin, Civil Engineer.
Col. J. M. Fessenden, " "
Wm. Parker, Esq., Engineer and Superintendent
Boston and Worcester railroad.
ja45



DAVENPORT & BRIDGES CONTINUE TO MANUFACTURE TO ORDER, AT THEIR WORKS, IN CAMBRIDGEPORT, MASS Passenger and Freight Cars of every description, and of the most improved pattern. They also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices. All order punctually executed and forwarded to any part of the country. Our Works are within fifteen minutes ride from State street, Boston—coaches pass every fifteen minutes.

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Camden and Amboy Line.—By Railroad and Steamboat from Amboy. Leave foot of Walnut street daily, Sundays excepted, at 5 1/4 a.m. Fare \$3. Forward deck \$2 25. Also for New York, by way of Trenton, Princeton, New Brunswick, Elizabethtown and Newark, N.J., daily from foot of Walnut street, at 9 a.m., and 5 p.m.—
31 Fare \$4.

For Reading and Pottsville. By Reading Railroad. Daily, Sundays excepted, from the Depot, corner of Broad and Cherry streets at 8 a.m. Fare, \$3 50. Second class, \$3. To Reading \$2 25. Second class \$1 90.
31

For Mauch Chunk and Wilkesbarre.—By Express and Reliance Line. Daily, from the corner of Broad and Cherry streets, at 9 a.m.
31 PETERS, MILTMORE & CO.

For Easton and Bethlehem. By Post Coaches. Leave the Office, next door to the White Swan, Race street, daily, at 4 a.m.
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For Baltimore. By Railroad. Fare \$2. Via Chester, Wilmington, Elkton, Havre de Grace. Leave Philadelphia, Depot, 11th and Market street, daily, Sundays excepted, at 8 a.m., 4 p.m. Leave Baltimore, Depot, Pratt street, daily, Sundays excepted, at 9 a.m., 8 p.m. Tickets through to Wheeling and Pittsburg can be procured at the Depot.

Wilmington Accommodation Line, leaves the Depot, 11th and Market sts. daily, except Sunday, at 10 a.m. and 4 p.m. Leaves Wilmington at 7 a.m. and 4 1/2 p.m.
G H HUDDLE, Agent. 31

For Baltimore. By Newcastle & Frenchtown Railroad and Steamboat Line. Fare \$1. The Steamboat Robert Morris, Capt. J. M. Douglass, leaves Dock street wharf daily, except Sunday, at 3 o'clock. Passengers by this line will reach Baltimore at about 10 p.m. Tickets through to Wheeling or Pittsburg can be procured on board the boat.
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For Baltimore, via Lancaster, Columbia and York. By the Susquehanna Railroad, daily, Sunday excepted, leave the Depot 274 Market st., at 7 1/2 a.m., and 12 at night, for Columbia, and leave Columbia at 2 p.m. for Baltimore. Dine at York and arrive in Baltimore in time for early tea; passing through the most highly cultivated and beautiful part of Pennsylvania, and romantic part of Maryland.
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For Pittsburg, via Columbia and Lancaster Railroads. Leave the Depot 274 Market st. daily, at 7 1/2 a.m. The Night Line will leave as usual at 12 midnight. At Harrisburg this line connects with the Railroad and Stage Line for Carlisle, Chambersburg and Pittsburg, with the Packet boats for Lewistown, Huntingdon, Hollidaysburg and Pittsburg; also with the Susquehanna Packet boats to Northumberland, Milton, Muncy, Williamsport, etc. Through tickets for any for any of the above places can be secured at the depot, where every information relative to the above lines will be given. Passengers for York and Gettysburg will leave in the 7 1/2 line.
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For Pittsburg. By the Pioneer and Express Packet Line. Leave the Depot, 274 Market st. above 8th, at 7 1/2 a.m. By this route travellers may be assured of a safe and comfortable passage, every arrangement having been made for their accommodation. Office N. E. 4th and Chestnut sts. Seats may also be procured at the Depot, and at 13 South 3d st.
A CUMMINGS, Agent. 31

Susquehanna Line of Railroad Cars and Post Coaches.

This line leaves the depot, corner of Broad and Cherry streets, daily, [Sundays excepted] at 8 o'clock, a.m., via Reading and Pottsville railroad, for Sunbury, Danville, Cattawissa, Northumberland, Milton, Muncy, Williamsport, Towanda, Bellefonte, Jersey Shore, Lockhaven, Ralston and Elmira. For seats apply at the stage office, 104 Race street, under the White Swan Hotel.
31 S. STILES, Agent.

FROM BALTIMORE. PASSENGER LINES SOUTH AND WEST.

Baltimore and Ohio Railroad.—For Cumberland, Hancock, Martinsburg, Harper's Ferry, Winchester, Frederick, Ellicott's Mills, and intermediate depots by the regular train, daily, at 7 1/4 o'clock, a.m. For Frederick and intermediate stations, by extra train, daily, except Sunday, at 4 p.m.

Fare in either direction between Baltimore and Cumberland \$7, and for intermediate distances at the uniform rate of 4 cts. per mile. Through tickets are issued between Baltimore and Wheeling respectively, \$11. Between Baltimore and Pittsburg, \$10. Between Philadelphia and Wheeling \$13.
31 J. D. FOLEY, Agent.

For Washington. From Baltimore at 9 o'clock, a.m.; 5 p.m.; and 11 1/2 p.m. By order,
31 D. J. FOLEY, Agent.

SUMMER ARRANGEMENT—FARE REDUCED.

By the Great Southern Mail Line, via Washington City, and the only line that now issues through tickets south, to Weldon and Charleston, S. C., whereby the traveller gains 24 hours in advance of those who take the Bay route. This is the only line that carries the great southern mail to Richmond, Petersburg, Weldon, and Charleston, S. C.

Direct to New Orleans, and at the following reduced rates of fare, viz: Through tickets from Baltimore to Charleston, \$21; whereby the traveller saves \$4 25. Bear in mind that this is the great Southern Mail Line, and the only one that issues a through ticket South. Those who patronize it will save their money and time. Through Tickets from Baltimore to Charleston \$21; Baltimore to Weldon \$10; Baltimore to Petersburg \$7 50; Baltimore to Richmond \$7.

Fast Mail Line.—Leave New York at 9 a.m. and arrive in Philadelphia at 3 p.m.; arrive in Baltimore at 11 p.m.; arrive in Washington at 3 a.m.; arrive in Fredericksburg at 9 a.m.; arrive in Richmond, Va., at 12 1/2 to 1 p.m.; arrive in Petersburg, Va., at 3 p.m.; arrive in Weldon, N. C., at 9 1/2 p.m.; arrive in Wilmington, N. C., at 12 m.; arrive in Charleston, S. C., at 6 a.m.

Passengers by the above line will arrive at Richmond by 11 1/2 o'clock p.m. and Petersburg, Va. by 2 1/2 o'clock p.m., through to the former city in twelve hours, and to the latter in fourteen and a half hours, (and in eight hours less time than by the Bay route,) and to Charleston, S. C., in fifty-one to fifty-two hours after leaving Baltimore, and do not incur the risk of any detention at intermediate points as those do who take the Bay route.

Way Mail Schedule.—Leave New York at 5 o'clock p.m. and arrive in Philadelphia at 10 p.m.; arrive in Baltimore at 6 a.m.; arrive in Washington at 11 a.m. From Philadelphia by steamboat.—Leave Philadelphia at 6 a.m. and arrive in Baltimore at 1 p.m.; leave Baltimore at 5 p.m. and arrive in Washington at 7 p.m.

For further information and through tickets apply at the Southern office, adjoining the Washington railroad ticket office, Pratt street, Baltimore.
31 STOCKTON & FALLS.

For Norfolk and the South, by steamboat through the Chesapeake bay to Norfolk, and then by railroad to Weldon, Wilmington or Raleigh, etc. Leaves Baltimore daily [except Sundays] from Spears' wharf, at 4 p.m., and arrives at Norfolk next morning at 7 o'clock; fare \$6. Leaves Norfolk at 8 a.m. and arrive at Wilmington next day at 12 m. and Charleston next morning at 7. Fare through \$21.

For Philadelphia (Union Line,) via Chesapeake and Delaware Bay, and Newcastle and Frenchtown Railroad.—The well known steamboat Constitution, Capt. Chaytor, has commenced her regular trips for the season, leaving Bowly's wharf, foot of South street, at 3 o'clock, p.m. daily [except Sundays] for Philadelphia. Through in 6 hours.
31 Fare \$1.

Morning Train for Philadelphia.

The morning train leaves the depot, Pratt street, daily [except Sundays] at 9 o'clock, a.m. Passengers arrive at Philadelphia in full time to continue on by the mail train for New York. Fare \$3. The evening train leaves Pratt street depot daily, at 8 o'clock, p.m., after the arrival of the cars from the south and west. Through in seven hours. Fare \$2.
31

For Philadelphia, via York, Columbia and Lancaster, by the Baltimore and Susquehanna railroad. Cars leave from their office, 63 North street, daily [Sundays excepted] at 9 o'clock, a.m. Fare \$3 50.
31

GEORGE VAIL & CO., SPEEDWELL IRON Works, Morristown, Morris Co., N. J.—Manufacturers of Railroad Machinery; Wrought Iron Tires, made from the best iron, either hammered or rolled, from 1 1/2 in. to 2 1/2 in. thick.—bored and turned outside if required. Railroad Companies wishing to order, will please give the exact inside diameter, or circumference, to which they wish the Tires made, and they may rely upon being served according to order, and also punctually, as a large quantity of the straight bar is kept constantly on hand.—Crank Axles, made from the best refined iron; Straight Axles, for Outside Connection Engines; Wro't. Iron Engine and Truck Frames; Railroad Jack Screws; Railroad Pumping and Sawing Machines, to be driven by the Locomotive; Stationary Steam Engines; Wro't. Iron work for Steamboats, and Shafting of any size; Grist Mill, Saw Mill and Paper Mill Machinery; Mill Gearing and Mill Wright work of all kinds; Steam Saw Mills of simple and economical construction, and very effective Iron and Brass Castings of all descriptions.
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NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee.
G. A. NICOLLS,
Reading, Pa.

MACHINE WORKS OF ROGERS, KETCHUM & GROSVENOR, PATTERSON, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work. Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
a45 Paterson, N. J., or 60 Wall street, N. York.

RAILROAD IRON AND FIXTURES. THE Subscribers are ready to execute orders for the above, or to contract therefor, at a fixed price, delivered in the United States.

DAVIS, BROOKS & CO.,
ja45 21 Broad st., N. York.

FROM NEW YORK.

New York and Harlem Railroad.
road Company.
 Leave City Hall for Yorkville, Harlem and Morrisania at 5.30, 7, 8, 9, 10, a.m.; 1, 2, 3, 3.30, 4, 5, 5.30, 6, p.m. For Fordham and Williams' Bridge at 5.30, 7, 10, a.m.; 2, 3.30, 5, 6, p.m. For White Plains at 7 and 10 a.m.; 2 and 5 p.m. Leave Morrisania and Harlem for City Hall at 6.30, 8, 9, 10, 11, a.m.; 2, 3, 4, 2.50, 6, 6.30, 7.45 p.m. Williams' Bridge for City Hall at 7, 7.40, 10.40 a.m.; 2.40, 5.40, 7.20 p.m. White Plains for City Hall at 7.10 and 40.10 a.m.; 2.10 and 5.10 p.m. 31

New York and Erie Railroad.
road Line.
 For Middletown, Goshen, and intermediate places. —Two daily lines each way, as follows:—For passengers—The new, fast and commodious steamboat St. Nicholas, Capt. Alex. H. Shultz, will leave the foot of Duane street daily, [Sundays excepted,] at 7 o'clock, A.M., and 4 o'clock, P.M., through in five hours. Returning, the cars will leave Middletown at 6, A.M., and 4, P.M. For further particulars inquire of J. Van Rensselaer, Agent, corner of Duane and West streets.

H. C. SEYMOUR, Superintendent.
 Stages run from Middletown daily, in connection with the afternoon line, to Bloomingburg, Wurtsboro, Monticello, Mt. Pleasant, Binghamton, Owego, Port Jervis, Honesdale, Carbondale, etc.

On Monday, Wednesday, and Friday, to Danduff, Montrose, Friendsville, Lenox, Brooklyn, etc. 31

PASSENGER LINES FOR THE NORTH AND WEST.

Morning Line, at 7 o'clock.—For Albany, Troy, and intermediate landings.—The steamboat Troy, Capt. A. Gorham, will leave New York, foot of Barclay street, at 7 o'clock, A.M., every Tuesday, Thursday, and Saturday. The steamboat Niagara, Capt. DeGroot, leaves New York at 7 o'clock, A.M. Monday, Wednesday, and Friday. 31

Afternoon, or 5 and 7 o'clock Line.—At 5 o'clock, P.M., landing at intermediate places, from the foot of Barclay street.—The steamboat New Jersey, Capt. H. H. Fury, will leave on Monday, Wednesday, Friday, and Sunday. The steamboat South America, Capt. M. H. Truesdell, will leave on Tuesday, Thursday, and Saturday. For passage or freight apply on board, or to

P. C. SCHULTZ,
 At the office on the wharf. 31

Evening, or 7 o'clock Line.—Line steamboats for Albany—Daily, Sundays excepted—Through direct at 7 o'clock P.M. from pier between Courtlandt and Liberty streets.—Steamboat Rochester, Capt. R. G. Crittenden, will leave on Monday, Wednesday, and Friday. Steamboat Knickerbocker, Captain A. Houghton, will leave on Tuesday, Thursday, and Saturday. 31

For Albany and Troy, direct, at 7 o'clock, P.M., from the steamboat pier, foot of Courtlandt street. The Empire, Capt. R. B. Macy, Tuesday, Thursday and Saturday. The Columbia, Capt. Wm. H. Peck, Monday, Wednesday, and Friday. 31

Troy and Greenbush Railroad.
road Company.
 Leave Troy, at 6 o'clock, A.M., to Boston and Albany; 8, do., do., do.; 10, do., do., do.; 2, P.M., to Boston and Albany; 4, do., do., do. Leave Albany at 7 o'clock, A.M.; 9, do., do.; 12, M., or on arrival of the Boston train; 3, P.M.; 6, P.M., or on arrival of the Boston train.—Fare, 12½ cents.

Passengers at Albany should procure tickets at the Boston railroad office, foot of Maiden lane. 31

L. R. SARGENT, Superintendent.
 Schenectady and Troy railroad cars leave as follows:—From Troy, 7½ o'clock, A.M., daily; 1, P.M., daily, except Sundays; 7½ do., daily. From Schenectady, 3 o'clock, A.M., daily; 9, do., do., except Sundays; 3, do., daily.

Persons going to Saratoga and north should take the 7½ A.M. train; and passengers going west of Schenectady, the 7½ A.M., or 7½ P.M. trains. 31

L. R. SARGENT, Superintendent.

Troy, Ballston, and Saratoga Railroad.—The cars of this road will run as follows:—Leave Troy at 8 o'clock, A.M., daily; do., do., 3½ P.M., except Sundays; leave Saratoga at 9, A.M., except Sundays; do., do., 3½ P.M., daily.

L. R. SARGENT, Superintendent.

Lake Champlain Steamboats.—From Whitehall to Burlington and St. John's—Morning Line on Lake Champlain, making intermediate landings.—Passage \$2, breakfast on board.—The Francis Saltus, Capt. H. G. Tisdale, leaves Whitehall, Tuesdays, Thursdays, and Saturdays, at 6 o'clock, a.m., and St. John's Mondays, Wednesdays, and Fridays, at 6 o'clock, a.m. For freight or passage apply to the captain on board. H. D. FILKINS, Agent, Troy.

Passengers leaving Troy, Mondays, Wednesdays, and Fridays, at half-past 3 o'clock, p.m., by railroad and packet, will arrive at Whitehall in time for the above boat next morning. 31

PASSENGER LINE EASTWARD.

Long Island Railroad.
Company.—Trains run from Brooklyn depot.—Boston train, 8½ a.m., daily, stopping at Farmingdale and St. George's Manor; accommodation train, 9½ a.m., and 5 p.m., for Farmingdale and intermediate places, daily; accommodation train, 3 p.m., for Greenport, daily, stopping at Jamaica, Branch, Hempstead, and Hicksville, and all the stopping places between Hicksville and Greenport. From Greenport depot: Boston train, daily, at 12½ o'clock, m., or on the arrival of steamers from Norwich. Accommodation train at 5, a.m., daily, for Brooklyn and intermediate places. From Farmingdale depot: Accommodation train at 6½ a.m., and 2½ p.m., daily, for Brooklyn and intermediate places.

The steamboat Statesman leaves Greenport for Sag Harbor twice each day, on arrival of the trains from Brooklyn.

Baggage crates will be in readiness, at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side. 31

Regular Mail Line between New York and Boston, via Stonington, Providence, and Newport, composed of the following steamers, running in connection with the Stonington and Providence railroads, and the Boston and Providence railroad: Massachusetts, Capt. Comstock; Mohegan, Capt. —; Narragansett, Capt. Manchester; Rhode Island, Capt. Thayer. Via Stonington, daily, [except Sundays,] at 6 o'clock, p.m., from New York, and from Stonington on the arrival of the mail train, which leaves Boston at 5, p.m., and Providence 6½ p.m. The Rhode Island on Mondays, Wednesdays, and Fridays; the Narragansett on Tuesdays, Thursdays, and Saturdays. Via Newport, the Massachusetts leaves New York for Newport and Providence, direct, on Tuesdays, Thursdays, and Saturdays, at 5 o'clock, p.m. 31

New York and Boston Railroad Line, via Norwich and Worcester, daily, from pier No. 1, North river, at 6 o'clock, p.m. The Worcester, Captain Bacon, on Tuesdays, Thursdays, and Saturdays. The Cleopatra, Capt. Dustan, on Mondays, Wednesdays, and Fridays.

Passengers, on the arrival of the steamers at Allen's Point, will be immediately forwarded in the splendid and commodious cars of the railroad to Boston, without change of cars or baggage. 31

For Newport and Providence, on Monday, Wednesday, and Friday. This line leaves at 8 o'clock, in the morning, from the foot of Whitehall street, South ferry. 31

U. S. Mail Line for New Haven, Hartford, and Springfield, from Peck Slip, East river, daily, at 6½ a.m., by steamboat New Champion, Captain Joel Stone, connecting with the cars at New Haven, for Hartford and Springfield. Night line for New Haven: The steamboat Hero, Capt. Richard Peck, leaves on Tuesdays, Thursdays, and Saturdays, at 3, p.m. For Hartford, direct, daily, [Sundays excepted,] at 4, p.m.—The steamboat Kosciusko, Capt. Le Fevre, every Tuesday, Thursday, and Saturday, and the Globe, Capt. E. D. Roach, will leave every Monday, Wednesday, and Friday. 31

Hoosatic Railroad; Bridgeport and New York.
 —The steamboat Mutual Safety, Capt. J. B. Lober, leaves New York, from the foot of Market street, every morning, [Sundays excepted,] at 6 o'clock, arriving in Bridgeport at 11 o'clock. Returning, leave Bridgeport at 1½ p.m., on the arrival of the cars, arriving in New York at 5½ o'clock. The Nimrod, Capt. J. Brooks, Jr., leaves New York daily, at 2, p.m., and Bridgeport 7 a.m. There are no train of cars running in connection with any boat except the Mutual Safety until further notice.

Tickets, if not purchased at the offices on the line of the road, or on board of the boat, will be charged at advanced prices. Dated tickets positively taken only on the day specified. R. B. MASON, Superintendent. 31

PASSENGER LINES, SOUTH AND SOUTHWEST.

New York and Philadelphia Railroad.
road Line—Direct. Leaves New York daily, from the foot of Liberty street. Morning Line, 9 o'clock, A.M. Mail Pilot Line, 4½ o'clock, P.M. Fare in first class cars, \$4. Second-class cars, \$3.

Passengers will procure their tickets at the office foot of Liberty street. Philadelphia Baggage Crates are conveyed from city to city without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for the Ladies' use. 31

Camden and Amboy Railroad.
Line.—For Philadelphia and intermediate places. Leaves Pier No. 2, North River, foot of Battery Place, by Steamboat to South Amboy, daily, Sundays excepted, at 5½ o'clock A.M. Passengers will take the cars at South Amboy. Fare to Philadelphia, \$3. Forward deck passengers, \$2 25. To Freehold and Monmouth, via stages from Hightstown, \$1 50. To Spotswood and West 75 cents. To South Amboy, 25 cents. To Perth Amboy, Tattens, Rossville and Tuffs, 12½ cents.

The steamboat Independence will land at each of the above named places going and returning, leaving Perth Amboy at 5 o'clock P.M. 31

New Jersey Railroad and Transportation Company.—For Newark. Fare 25 cents. Leave New York at 8, 9, and 11 o'clock A.M., and 12½, 2, 3, 4½, 6½, and 8 o'clock P.M. Leave Newark at 7, 7½, 8, 9, 10½, A.M., and 1½, 4, 5½, 7½, 9½, P.M. On Sundays, leave New York at 9 A.M., and 4½ P.M. Leave Newark at 11½ A.M., and 9½ P.M.

For Elizabethtown. Fare 31½ cents. Leave New York at 9 A.M., 12½, 2, 4½, 6½ P.M. Leave Elizabethtown at 7, 7½, 8, 10½ A.M., 3½, 6½, 9½ P.M.

For Rahway. Fare 31½ cents. Leave New York at 9 A.M., 12½, 2, 4½, 6½ P.M. Leave Rahway at 5½, 7½, 7½, 11½, A.M., 3, 6½, 9, P.M.

For New Brunswick. Fare 50 cents. Leave New York at 9 A.M., 4, 4½ P.M. Leave New Brunswick at 5½, 7½, 11, A.M., 8½, P.M. On Sundays, leave New York at 9 A.M., and 4½ P.M. Leave New Brunswick at 12 M., and 8½ P.M.

The commutation fare between New York and New Brunswick and intermediate places, including the ferry, \$65 per annum. 31

Paterson Railroad. Leave New York, 9½ A.M., 12½, 5½ P.M. Leave Paterson, 8, 11½, A.M., 4 P.M. On Sundays, leave New York 9½ A.M., 5½ P.M. Leave Paterson, 8½ A.M., 4½ P.M. Passengers are advised to be at the ferry a few minutes before the stated hours of departure. Office 75 Courtland street. 31

Morris and Essex Railroad.
 Leave New York, 8 a.m., 4½ p.m. Leave Newark, 9 a.m., 5½ p.m. Leave Morristown, 7 a.m. 3½ p.m. Passengers by the morning train to Morristown, will arrive there at 10½ o'clock, when stages will be in readiness to convey them to Schooley's Mountain, Washington, Belvidere and Easton daily; to Succasunna, Stanhope, Newtown, Milford and Owego on Mondays, Wednesdays and Fridays and to Rockaway, Dover, Sparta and Newton on Tuesdays, Thursdays and Saturdays. Passengers from Morristown will arrive in Newark in time to take the morning and afternoon trains from Trenton and Philadelphia. 31

Handwritten note: 22/11/1886